

CASCADE

UO COLLEGE OF ARTS AND SCIENCES



UNIVERSITY
OF OREGON

SPRING 2013

HISTORY IN THE MAKING



CAMPUS PROJECT CAPTURES
STUDENT VETERANS' STORIES



Dean's Page

Reflections on the last five years, including (especially) the enrollment surge



JACK LIU

Scott Coltrane, Tykeson Dean of Arts and Sciences

How well does a college education pay off in the long run? The Brookings Institution recently examined higher education as a financial investment and found that it yields a return of 15.2 percent—a better long-term rate of return than any other type of investment. So while concerns remain about the high cost of tuition, a college education remains a reliable path to future financial security.

On the more immediate financial front, there's good news for students graduating this June: Starting salaries for 2013 graduates are up more than 5 percent over last year, according to a National Association of Colleges and Employers Salary Survey in April.

This promising news is yet another sign that the economy is regaining some stability—among many other nationwide indicators such as the stock market rebound and the beginnings of a housing recovery.

I am especially pleased to share this development because I'm approaching my five-year anniversary as dean, and this has

given me the opportunity to look back over that five-year period. When I first arrived at the UO in 2008, we were just entering a protracted economic downturn and I was dismayed to learn that other universities across the country were cutting longstanding arts and sciences programs—especially in the humanities—such as theater arts, classics and language study.

We were very fortunate here at the UO, where drastic cutbacks were not needed. Part of the reason is that, by the time the economy took a turn for the worse, the state of Oregon had already been disinvesting in higher education for decades. (Currently, only 5 percent of the UO budget comes from state funds, compared to 30 percent in the early 1990s.) So when the state suffered a fiscal crisis, the ripple effects were minimal at the UO. In contrast, many other universities made deep cuts in important programs because their state funding was so dramatically reduced.

Another reason we did reasonably well through challenging economic times: Enrollment at the UO increased by 20 percent over the past five years: from 20,376 in 2007–8 to 24,591 this year. This meant that tuition revenues rose accordingly.

The enrollment surge has had a profound effect on the College of Arts and Sciences, because that's where students take the vast majority of their general education classes. On top of that, two-thirds of all undergraduates go on to get a degree in the college.

As part of my five-year review, I made a public presentation looking back at my tenure as dean. One of the most telling slides in my presentation shows the impact of these 4,200 additional students. The College of Arts and Sciences absorbed virtually all of the increased student credit hours, growing from 500,000 student credit hours in 2008 to more than 631,000 today—a 26 percent increase. (See the inside back cover of *Cascade* for a more visual look at this data.)

This has required more faculty

members, more staff employees and more classroom space as well as more creativity, perseverance and collaboration. And we have risen to the challenge.

In my presentation, I was also very pleased to report several academic milestones achieved over the past five years: the founding of the cinema studies and Latin American studies majors; the relaunch of the general social sciences major; and the introduction of the innovative *Reacting to the Past* seminars within the College Scholars program, to name just a few.

I also showcased some of our most significant faculty recognitions, such as psychologist Michael Posner's Medal of Science and chemist Geri Richmond's appointment to the National Science Board, as well as several high-profile undergraduate awards.

Looking ahead to my sixth year, I will be stepping into a new role for an interim period. President Michael Gottfredson has asked me to serve as interim provost while a nationwide search is conducted for a permanent replacement for Jim Bean, who is returning to teach in the Lundquist College of Business.

This means the College of Arts and Sciences will have an acting dean, and I am pleased to announce that W. Andrew Marcus will be taking on that role. Andrew is a geography professor and currently associate dean for social sciences. You've read about his work here in *Cascade*, in stories about the *Atlas of Yellowstone*, for which he served as senior editor.

On the "kudos" page (page 14), you'll read about the PROSE award Andrew and his *Atlas* colleagues recently received. He's one of more than thirty faculty members who have been singled out for national honors in this academic year alone—building on an already substantial list of achievements for the past five years in the College of Arts and Sciences.

A handwritten signature in blue ink that reads "Scott Coltrane".

CASCADE

UO COLLEGE OF ARTS AND SCIENCES

Cascade is the alumni magazine for the UO College of Arts and Sciences.

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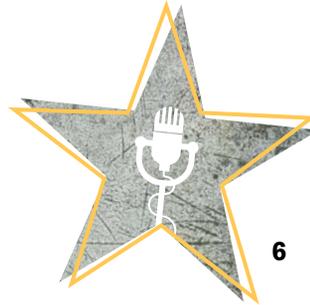
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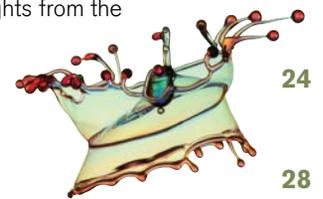
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Ask the Expert

Stress Test—How Culture Influences Illness



MATT COOPER

Is a headache the same experience across cultures? According to Kristin Yarris (left), the way we describe—and even feel—physical distress and symptoms of illness can depend on cultural context. A “stress headache,” for instance, may be an everyday phenomenon in the U.S. but not in rural Nicaragua, where a stress headache is unheard of. However, something called a “brain ache” is described by Nicaraguan women who are missing a loved one.

Yarris, a new assistant professor of international studies and women’s and gender studies, has a long list of credentials that have led her to explore cross-cultural health concerns from many intersecting angles. With a PhD in sociocultural anthropology as well as three master’s degrees (Latin American studies, anthropology and public health), her regional focus has been Latin America, with a special interest in mental health and the influence that migration has on health outcomes.

Yarris was hired to help develop a professional concentration in global health in the Department of International Studies, with a shared appointment in the Department of Women’s and Gender Studies. She taught the first core class in this concentration last winter, called Global Health and Development.

Interview by Lisa Raleigh

Q: One of your areas of expertise is medical anthropology. How do you define this field?

Yarris: At its roots, medical anthropology looks at different cultural expressions of illness and sickness—the ways different cultural groups experience suffering—with an attempt to push back against the tendency to import diagnostic categories from the “West” to other cultures. The goal is to understand lived experience of illness from the point of view of those who suffer.

Q: How did you get interested in this field?

A: When I was at UCLA, I taught medical Spanish at the UCLA School of Medicine to first- and third-year medical students; this led me to participate in volunteer medical brigades in Nicaragua as a translator. I would be translating between the med students and the patients, and sometimes the patient would express things that I could translate in literal

terms—like “bone pain” or “kidney pain”—but I often felt the medical student and or doctor would, in their diagnosis, transform what that meant. Bone pain might become rheumatoid arthritis, for example—but I always was uncertain about the jump to a diagnostic conclusion and found myself wondering, “What is this person really trying to say? What does he really mean by bone pain?”

I also heard a certain pain articulated by lots of patients: *dolor de cerebro*. I literally translated this as “brain ache,” because the term for headache is *dolor de cabeza*, and that’s not what they said. But I didn’t know how to interpret what they were saying. Was it a migraine? Was it something else? These were two-week medical brigade experiences where I was translating all the time, so I didn’t have the opportunity to explore the meaning.

But later I went back for three months as part of a master’s program summer field experience and did a study of rural women in Nicaragua. I asked them, “Tell

me about this pain” (*dolor de cerebro*). This was a classic medical anthropology approach, using qualitative ethnographic interviews. I asked them to tell me about the onset, what other pains or symptoms or signs were associated with it, what kind of treatment they received.

Q: And what did you learn? What is a “brain ache”?

A: It’s a physical pain at the base of the skull, top of the neck. These women identify it clearly there. I can’t say this is just a headache or just a migraine because the women themselves make a distinction. They have explanatory models: A migraine, they would say, often comes from the sun or being out in the fields too long. A headache was something that you get if you were worrying a little too much or you didn’t sleep well. But a brain ache comes from a more chronic kind of worrying.

Among the women I interviewed, they said, “The onset of this pain

happened when our adult daughters out-migrated”—meaning when they left Nicaragua in search of work and economic opportunities. In that region of Nicaragua, most migrants leave for Costa Rica for agricultural work or domestic service. They make money and send it home. So the women say, “They’re not abandoning us.” But there’s tension around loss, definitely.

This particular pain was also associated with the social suffering many of them had experienced. This was a region of Nicaragua that was heavily impacted during the Contra War, and many of these women had lost sons or husbands or both, or their families had been divided by the war, with one son fighting with the Sandinistas and the other fighting for the Contras.

So there were multiple layers of stories of suffering and loss, and out-migration is the most recent layer of that experience. That’s really what was provoking this pain.

Q: So we don’t have an analogy for that in our culture?

A: That’s right. Studying pain cross-culturally is really interesting. Why, in the United States, do we get stress headaches? When we say, “I’m so stressed out,” or “I have a stress headache,” we know what that means—culturally, we share this set of signs and significations. But stress doesn’t translate to other places. The women in rural Nicaragua that I worked with

In a nutshell, the expectations that these women had for their lives and their families had been completely pulled out from under them.

didn’t use the term *estrés* or *estresada* to describe what they were feeling.

Consider also irritable bowel syndrome. This tends to strike a certain demographic in the U.S.—professional, highly educated, stressed out women. But why do they feel this in their intestines and not somewhere else? I think this is related to U.S. culture, but in ways I don’t fully understand. I’m not an expert on that—but this is where we as anthropologists insert ourselves in these discussions. These are the kinds of questions we ask.

Q: There’s an interesting intersection between your interests in mental health and migration. How does this all fit together?

A: I did not expect at all to become a scholar of migration. But the women I interviewed in Nicaragua brought it to my attention as a factor to consider. These were women largely of middle age, many of them grandmothers—women there give birth at an early age, so they can be grandmothers in their forties—and they were raising the children of *their* children who had out-migrated. So my dissertation became a study of the impact of out-migration on women who raised their grandchildren as a result—a study of the role of grandmothers in contemporary global migration and how they assume intergenerational caregiving.

Q: What did you find out?

A: I designed a study with twenty-four families whose sons or daughters had out-migrated. As an anthropologist, we have small samples like this so that we can do much more in-depth work with them. In each of these families, the children who out-migrated (their main destinations were Costa Rica, Panama, Spain and the U.S.) left behind a school-aged child, and it was a grandmother who had assumed primary caregiving responsibility.

I asked the grandmothers how this reconfiguration of their family life had impacted their bodily experience, and heard again about *dolor de cerebro*—even though most of these women were not in rural communities (as in my earlier research), but around the capital of Managua. They also described other specific pains associated with the chronic worry and anxiety that comes from this family transformation.

In a nutshell, the expectations that these women had for their lives and their families had been completely pulled out from under them. And they were left wondering, “Well, now what do we do?” Paradoxically, they find a lot of continuity by raising children. The daily routines of caregiving sustain them in interesting ways, even though it’s partially experienced as a burden or responsibility—as anyone finds when they raise children; it’s both things. It’s enjoyable and also burdensome.

For me, this is connected to an important issue that is broadly related to global health: caregiving, specifically the role of what the health literature calls informal caregivers (often implicitly understood as women). The unpaid family caregivers.

I’m really interested in how transformations associated with global migration and rapid cultural change are having an impact on well-being, broadly construed—how it affects women’s subjective sense of “this is how I thought my life was going to be.” Medical anthropologists have argued that complaints that are felt in the body or experienced as pain—conditions like irritable bowel syndrome or fibromyalgia or even chronic headaches—can be linked to people feeling that there’s a disconnect between what they hoped for their life and then the reality of their life. So I’m using that framework in understanding these women’s lives. ■

Dining with the Devil

**'Narco Narratives' May Take the Edge Off Fear—
While Expressing Hostility Toward the Privileged**

By Lisa Raleigh

One of the stories goes like this: The setting is an upscale restaurant. Patrons are enjoying their dinner when a thuggish group of men bursts in. Brandishing automatic weapons, they demand everyone's cell phones, purses and wallets. Things do not look good.

But it's not the potential massacre it seems. Take it easy, the men say. *El Chapo* merely wishes to have a meal here—just like an ordinary person. Just like you. Go about your business; we will return your personal items when the boss has finished his supper. By the way, the boss has also paid for all of your meals.

There's an uncertain sigh of relief. Maybe *el Chapo*, the notorious head of the Sinoloa cartel, is not the ruthless butcher he is reputed to be.

Assistant professor Claudia Holguín Mendoza heard this story time and again

**Maybe the narcos
are not as cold-blooded
as the press makes
them out to be.**

when she was conducting ethnographic research in her hometown of Juárez, the Mexican border city infamous for narco violence in the streets.

Her interview subjects would share this story in hushed tones, apparently fearing they might be overheard by narco spies. They claimed to have heard this story from someone who was actually in the restaurant that night. Or from someone who heard it from someone who was there. And so on.

There's no evidence that this event actually took place, says Holguín Mendoza. It's purely urban legend.

Here's another one:

A well-to-do woman is getting her hair done in a salon, complaining loudly to her female stylist that it's not safe to go out in public any more because the cartels have taken over the streets. Another customer, a man (presumably a narco), overhears this and pulls out a gun. He commands the stylist to shave the woman's head. The stylist complies. Satisfied, the gunman leaves.

Random Death Avoided

As with the *el Chapo* narrative, this one has gained wide circulation throughout Juárez. Again, the prospect of random death is avoided—this time because the potential assassin mercifully spares the one who has



offended him, when he easily might have shot her instead.

In considering why these stories have gained so much traction and what purpose they serve, Holguín Mendoza first interprets them at the most basic psychological level—as anxiety-reducing. Maybe the narcos are not as cold-blooded as the press makes them out to be. Maybe the citizens of Juárez are not necessarily risking their lives when they conduct the activities of a normal life: eating in a restaurant, getting their hair done.

But there are other themes in play here, too, says Holguín Mendoza—particularly related to tensions involving social class and longstanding resentments against the privileged.

Consider the arc of *el Chapo's* life story: Joaquín Guzmán Loera, a former farmhand, rises to great wealth and power in a society where upward mobility from rural poverty is essentially unheard of. While *el Chapo's* wealth and power might be viewed as illegitimate, there is also a pervasive disgust with the widespread



A similar dynamic can be seen in another popular phenomenon, the *narcocorridos*, a musical genre that exalts traffickers as the new heroes of Mexican youth.

corruption among police and federal officials, says Holguín Mendoza, and this disgust reframes the concept of justice.

“For some, the narco becomes a celebrated hero . . . by defying police and governmental authorities, widely known to misuse both state control and capital. It is socially justifiable as a sign of revenge,” writes Holguín Mendoza in a recent article entitled “Dining with the Devil: Identity Formations in Juárez, Mexico.”

A similar dynamic can be seen in another popular phenomenon, the *narcocorridos*, a musical genre that exalts traffickers as the new heroes of Mexican youth. The songs celebrate the “adventures” of fearless drug lords who defy the authorities.

And there’s another reason the narcos might be viewed with some semblance of admiration. From a pragmatic standpoint, the narcotics business can be seen as having benefits in economic terms, says Holguín Mendoza, because it employs “not only mercenaries but also many part- or full-time farmers who otherwise would have migrated to the cities under the pressure of an agrarian crisis that has long devastated the Mexican countryside.”

A Way to Put Women in Their Place

In the story about the woman complaining about street intimidation and then enduring the humiliation of having her head shaved, Holguín Mendoza sees a narrative that demonstrates the desire to shame the privileged class—and also put women in their place.

In one sense, this story reinforces the cultural mythology that “the narco dealer is the one who terrorizes the time-honored upper classes in society,” she says.

But considered from another perspective, she notes that the narco’s threat of assassination to enforce silence (the woman complaining) and obedience (the stylist) also reveals gender tensions in a society undergoing profound transformation.

Juárez, as the setting for this urban legend, is a city plagued with near-epidemic violence against women. Not only is it notorious for drug-related crime, it is also infamous for the murder of hundreds of women. It is estimated that nearly 400 women and girls have been killed in the Juárez area since 1993; most of these crimes remain unsolved.

These murders have taken place at

a time when the economic status of women has changed dramatically in Mexican border towns, as U.S. companies have located manufacturing plants (*maquiladoras*) just across the border to take advantage of NAFTA. In fact, Holguín Mendoza makes a direct link between the liberalization of trade policies and increased violence.

“There’s a solid association between structures of power, impunity, violence and the neoliberal market,” she asserts. In other words, she views social inequalities as the root of violence, and these are a product of “not only local forces, but of global socioeconomic changes.”

The workers in the *maquiladoras* are predominately women, many of whom lived in rural poverty before migrating to the city for work. And many of them, whether they were originally from rural or urban locations, are now the breadwinners in their families. This challenges traditional gender roles in a society previously defined by a macho sensibility.

As with the restaurant story, the hair salon story also minimizes actual danger. “In reality, women in Juárez are not just silenced and left alone if they obey,” says Holguín Mendoza. “They are kidnapped, raped, tortured, mutilated, assassinated and then dumped in the desert outside the ‘civilized world.’”

Taken together, Holguín Mendoza sees these two urban legends as commentary on “the impunity system.” Cartel gangsters can kill each other and everyday citizens on the streets without threat of arrest or other consequences—because the authorities also act with impunity, taking bribes and otherwise enabling a system of corruption. Women can be murdered with impunity for many of the same reasons.

The stories might deflect the grim reality of life in Juárez by suggesting that death-dealing narcos may in fact be merciful—maybe even misunderstood. But according to Holguín Mendoza, they also point to “deep struggles regarding social hierarchies and structures” that currently define this border city. ■

AN ARMY MEDIC, NOW BOUND FOR MED SCHOOL



Byron Etta (left) and a communications specialist from his unit, in a convoy vehicle in Balad, Iraq. Riding in one of these mine-resistant, armor-protected vehicles made him feel “like a starship trooper.”

When the IED detonated, Byron Etta’s vehicle lifted off the ground. He remembers a giant red flash and the force of being thrown upward, hitting his helmeted head on the ceiling of the rig and then landing right back in his seat. The improvised explosive device blew the engine off, and the driver and gunner sustained concussions; everyone scurried outside to take up defensive positions. In the distance, Etta heard guns going off as Iraqi insurgents celebrated a successful attack on the enemy.

Etta, at the time a twenty-two-year-old medic on his second tour in Iraq, was changed instantly: “I knew I had been closer to dying than I ever had in my life,” he said. “That visceral fear, visceral pain,

visceral anguish was unparalleled. The importance of life felt unsurpassed to me. Once I felt it, I couldn’t hurt another person.”



Etta (on the floor), instructing Iraqi nurses on cervical spine immobilization. Iraqi doctors helped Etta bridge the language gap.

It was a terrifying experience—and just what a young doctor-to-be needed.

Now finishing his degree in biology at the UO, Etta had spent his freshman year at the University of Chicago as a premed student without enough focus; it had pretty much been a bust. Between the academic demands and a part-time job, he was quickly overwhelmed, with slipping grades and mounting debt. So he quit school and joined the Army to be a medic, seeking not just the financial support to further his education but a trial-by-fire experience that might tell him whether he truly had the commitment for a career in medicine.

Etta served two tours in Iraq, 2006–7 and 2008–9. He drained fluid from a patient’s lungs by inserting a chest tube and he treated Iraqi nationals with third-degree burns over 95 percent of their bodies—all in the middle of a combat setting. Etta described an incident in which a soldier had been hit with shrapnel; he coolly applied a tourniquet and an intravenous morphine drip while the patient, in agony, screamed at him.

“I really hoped I was the type of person who wouldn’t freak out under pressure,” Etta said, “but you can’t possibly know until you have been in that situation.”

Finding the violence of war intolerable, Etta eventually applied for and received “conscientious objector” status. While waiting for the paperwork to go through, he created and taught a combat trauma course for Iraqi doctors and nurses, ending his service with an honorable discharge.

At the UO, Etta no longer needs a part-time job because his studies are covered between the GI bill and his receipt of a Tillman Military Scholarship. Named for the

Under African Skies

A UO BIOLOGIST REINVENTS HERSELF AS A GLOBAL HEALTH ADVOCATE



By Matt Cooper

It's a grave error in thinking to believe the solution to Africa's AIDS crisis is the condom.

A charismatic nurse in rural Zimbabwe drove this point home to visiting biologist Janis Weeks of the UO. AIDS is caused by a virus, and Weeks, like many people first confronting the HIV-AIDS epidemic, had naively assumed that a purely biomedical approach could slow its spread.

The nurse, a strong black woman in her 50s, knew better. AIDS in Africa, she said, is mired in a complex web of factors that include issues of gender, culture and economics.

As in the U.S. and throughout the world, social stigma is one of the biggest hurdles to

effective AIDS treatment in Africa, especially in rural areas. Word of a positive test can render one a social outcast. Men will steal their wives' anti-HIV pills sooner than visit a doctor and risk being spotted; women are reluctant to get tested and become the target of village gossip.

Even strong, intelligent women who know the risks. The nurse who taught Weeks about these hard realities in Africa—and delivered babies of HIV-infected mothers for many years without benefit of gloves or other protection—died in 2009 of an AIDS-related illness.

"She told me in a letter a few months before she died that she had contracted HIV," Weeks said. "She hadn't told anybody else because of her fear of stigma."

Most of us would consider ourselves lucky to make a single significant contribution to mankind. But Janis Weeks, having established an international reputation as a top researcher in one field, is doing it again in another.

Her previous research focused on basic neuroscience, using the seemingly miraculous transformation of a caterpillar into a moth to understand how steroid hormones help orchestrate the complex development of nervous systems in all animals, including humans.

Then Weeks reinvented herself. Spurred by the global-health crisis she witnessed

firsthand while teaching neuroscience in Africa, Weeks changed her area of emphasis in biology. This has unexpectedly led to collaboration with a fellow UO neuroscientist to speed the development of new drugs that will kill worm infections in humans and livestock.

Weeks has also created new undergraduate courses at the UO on tropical disease and AIDS in Africa, honing her understanding of the issues while providing popular new curricula that fill a gap in university offerings.

It's not uncommon for scientists to branch in new directions simply because the research is exciting. That Weeks has been able to align her personal and professional passions behind a cause with global ramifications has imbued her with an additional sense of purpose.

"People always asked me, 'why would you work on caterpillars and metamorphosis?'" Weeks said. "It's just so cool and interesting and satisfying in its own right, I could do the research just for the joy of discovering new knowledge and not care if it has some big, cosmic, save-the-world function.

"Now," she added, "with the global health research, it's still really fun but it has direct relevance for something that I really care about. That's the big watershed change."

UNJUST THINGS

She has always hated "unjust things." Born and raised in Bremerton, Washington, with a union organizer for a father, Weeks developed a social conscience at an early age. She picketed in high school and almost flunked out of her freshman year at MIT due to her activism on behalf of the poor and against escalation in Vietnam. She phone-banked, marched and was tear-gassed, all a result





Janis Weeks (left) and Marilyn Mohr of UO Libraries (right) visiting friends and fellow musicians in Zimbabwe. (See Online Extras to learn about their music.) Photos courtesy Janis Weeks, from her travels in Africa.

of being “political,” she says, for as long as she can remember.

She was less passionate about biology: She had no interest in the field in high school and planned to major in physics and astronomy in college. But then she took a course taught by Jerry Lettvin.

Jerome Ysroael Lettvin was the brilliant, cigarette-smoking cognitive scientist and MIT professor whose 1959 paper, “What the frog’s eye tells the frog’s brain,” is one of the most cited documents in the field. Lettvin was the first to demonstrate “feature detectors” in the visual system and he authored scores of articles that crossed the conventional boundaries between neurology, physiology, philosophy and politics.

He was also just an enjoyable guy to be around. Lettvin was known for stunts such as feeding photocopies of dollar bills into a candy machine, arguing “if it accepts this, it’s not illegal.”

Lettvin opened Weeks’s eyes to the wonders of neuroscience—what she calls the “geeky” end of biology. The field’s reliance on instruments, quantitative analysis and the recording of electrical signals played to Weeks’s strengths in mathematics and engineering, while

promising to challenge her ever-inquisitive nature.

She pulls a massive, worn book from a shelf in her office: *Cellular Neurophysiology*, a bible in the field, 1,000-plus pages of primary research articles. This was Lettvin’s idea of an introductory textbook—advanced material you’d expect to encounter in graduate school. “I still can’t understand some of these papers,” Weeks said, shaking her head with a mix of wonder and admiration. “But we followed Jerry’s lead and dove in—and cut our teeth on some of the most influential papers in the field.”

Following a bachelor’s degree from MIT, a doctorate from the University of California at San Diego, a postdoctoral stint at the University of Washington and four years as a professor at the University of California at Berkeley, Weeks and her husband, Bill Roberts, arrived at the UO in 1989 to take positions with the biology department.

HORMONES AND SYNAPSES

In her research on insect neuroscience, Weeks has made major contributions toward the understanding and treatment of neurological disorders. Studying the caterpillar during metamorphosis, she

showed that a specific shift in steroid hormone levels triggered physical changes in a single synapse—the bridge between two neurons or nerve cells—that was critical for the transformation of certain behaviors.

As we age, the neurons in our brain also change, with scientists suspecting that cognitive decline results; the question is the extent to which one causes the other. By demonstrating that a natural change in hormone levels influences the structure and functionality of neurons, Weeks provided advances that have been embraced by the National Institutes of Health and advocates for the treatment of Alzheimer’s disease and muscular dystrophy.

At that point in her career, Weeks was undergoing changes herself. After decades spent studying hormones and neural circuitry, she felt she had completed the main body of this work. She was intrigued by the idea of teaching something new and she thought more and more about her true calling. She had been traveling to Africa for years.

“I thought about Africa and my day job and I said, ‘wouldn’t it be nice if I could align those better?’” she recalled.

He was a boy of fourteen or fifteen, acutely ill from HIV infection, dehydrated and starving, so sick that he couldn’t drink the protein shake that Weeks had prepared for him.

Weeks begged the hospital staff members to start him on intravenous fluids. But at this rural Zimbabwean hospital, the lack of money and resources means only the sickest get such treatment. It was only after he slipped into a coma that an IV was started.

“The horror of being a mother of kids around that age . . .” Weeks said, her voice trailing off. “He’s on his deathbed, and now he qualifies to get IV fluids. No kid should die that way.”

Weeks, easy-going and down-to-earth, is prone to skip around a bit when talking about something that excites her. This

idiosyncrasy is only intensified when the subject is Africa.

She first went there in 1996 as a member of an international teaching team in neuroscience. But it was Weeks's study of Zimbabwean music in Eugene—she plays marimba and mbira, both keyed instruments—that prompted later trips to visit her musician-friends in their homeland while she was abroad to teach. That's when she began to witness the staggering burden of HIV-AIDS, tuberculosis, parasites, malnutrition and other diseases.

As many as one in four adults in southern Africa have an HIV infection—the worst rate in the world. As Weeks traveled around Zimbabwe, hosted by the families and friends of the musicians she had studied with in Eugene, the sobering reminders were constant: Young men who were strong one year but skin and bones the next; women with the persistent cough of tuberculosis; children whose urine was bloody from worm infections.

“People just wouldn't talk about HIV-AIDS—‘so-and-so died after a long illness,’” Weeks said. “I just wanted to shake everybody and say, ‘have you been tested? Do you know what you need to do?’”

Weeks plunged in, working with Oregon-based nonprofits that operate community preschools, educate girls from AIDS-affected families and provide funds and supplies for medical facilities in Zimbabwe.



She also brought Africa to the UO. The best way to learn something is to teach it, Weeks said, and since 2006 she has developed two new courses: a biology course on tropical diseases in Africa and a Clark Honors College course on the challenge of HIV-AIDS, both of which incorporate patient case studies from her fieldwork in Zimbabwe and Senegal. She also was instrumental in the launch of the UO's African studies program.

In 2009 Weeks received the Biology Teaching Recognition Award and in 2011, the UO Martin Luther King, Jr., Award, the latter for “embodying King's humanitarian spirit and promoting diversity, social justice and equity.”

But it wasn't enough.

QUICK IS GOOD

Weeks wanted to put her research to work for the things that mattered to her personally. There are neurological aspects to epilepsy, sleeping sickness and other tropical diseases in Africa—why not join a research project somewhere and contribute her skills in electrophysiology and the interplay between neurons and muscles? Weeks explored potential collaborations with faculty members at other universities but eventually decided that the need for daily interaction with colleagues would make long-distance partnerships unsatisfying.

She needed a local partner.

Kristin Robinson, manager of the Weeks laboratory, peered through a microscope at a transparent microfluidic device, a plastic and glass “chip” about the size of a matchbook.

Embedded in the chip were eight channels, each just micrometers wide—thousandths of a millimeter. In each pathway, a single tiny worm twisted about, its head stuck firmly in place at one end of the narrowing channel. Running from each channel were cables that carried the electrical signal of each worm’s pumping pharynx—a muscular throat used to ingest bacteria—to a computer monitor that amplified and displayed the rhythmic contractions.

Robinson perfused the channels with an antiparasitic drug. Within minutes, all eight readings on the monitor had flat-lined, indicating paralysis.

“Quick is good,” she said.

Quick is especially good where pharmaceutical companies are concerned. Two to three billion of the world’s poorest people are infected with parasitic worms such as hookworm and whipworm, a consequence of their exposure to fecally contaminated soil and water; the result is chronic illness, especially in children, hindering physical, cognitive and economic development. There are antiparasitic medicines on the market, but they can be unsafe and expensive,

The Bill & Melinda Gates Foundation recently awarded her \$100,000 from their Grand Challenges Explorations program.

and parasites are becoming increasingly resistant.

Where are the new drugs?

Weeks and Shawn Lockery, a colleague in the UO’s Institute of Neuroscience, are accelerating the production of new medicines by bringing microfluidics and electrophysiology together in the lab.

Weeks and Lockery have known each other for more than thirty years, dating back to their days as graduate students in the same laboratory at UC–San Diego. At the UO, Lockery had become an expert with the popular biology test specimen, the common nematode worm, *Caenorhabditis elegans*; he had also learned the emerging field of microfluidics under pioneer George Whitesides, during a sabbatical leave at Harvard University. Lockery had been after Weeks for years to team up on a microfluidics project.

Having decided that she wanted to collaborate with someone closer to home, and seeing the potential for serving the

continent she now visits annually, Weeks signed on with Lockery in fall 2010, during a mushroom-hunting trip on the Oregon coast with their two families. Weeks’ husband, Bill Roberts, and their sons, Alex Weeks and Jackson Roberts, later joined the effort to develop software, databases and electronic equipment for the project.

A QUANTUM LEAP IN TESTING

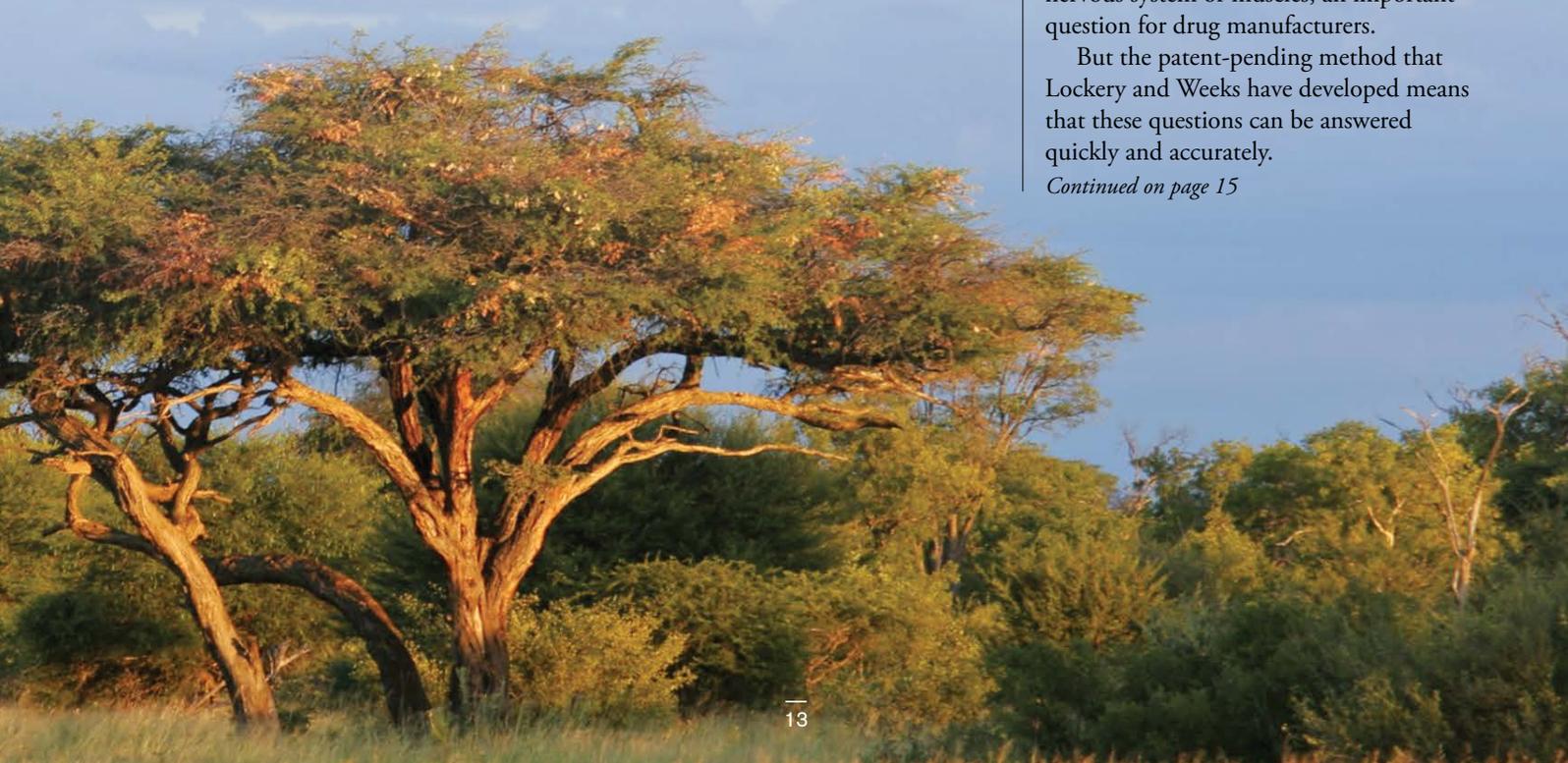
Combining their complementary expertise in neuroscience, nematode biology and engineering, Weeks and Lockery formed a UO-affiliated company, NemaMetrix, to commercialize technology that represents a quantum leap in testing for new antiparasitic drugs.

Today, the methods used to test the effectiveness of antiparasitic drugs are time-consuming and imprecise. Large amounts of test drugs are needed and the results don’t indicate how, exactly, specimens are affected; false-positive hits must be rescreened, slowing the process further. The work is often done by monitoring the movement of the worms; after treatment with a test compound, worms may stop moving after several days, but many additional steps are required to determine why. Are they dead? Paralyzed?

In particular, current methods don’t provide a way to determine quickly if a test compound interferes with a worm’s nervous system or muscles, an important question for drug manufacturers.

But the patent-pending method that Lockery and Weeks have developed means that these questions can be answered quickly and accurately.

Continued on page 15



Faculty Kudos

It's been yet another extraordinary year for faculty honors in the College of Arts and Sciences. At press time, the most recent was the mid-May announcement of a \$100,000 Grand Challenges Explorations grant from the **Bill & Melinda Gates Foundation** awarded to **Janis Weeks** and **Shawn Lockery** for their development of technology to help test antiparasitic drugs. (See Weeks profile, page 10.)

Here's a wrap-up of other awards and recognitions received so far in the 2012–13 academic year (alphabetically by last name)*:

Biologist **Bruce Bowerman** was named a fellow of the **American Association for the Advancement of Science**. AAAS is the world's largest general scientific society; fellows are elected by their peers. Physicist **James Brau**, Philip H. Knight Professor of Natural Science, and the **Large Hadron Collider team**, were recognized in *Physics World's* "Top 10 Breakthroughs for 2012" for their efforts on the ATLAS experiment in Geneva; team members included physicists **David Strom**, **Ray Frey** and **Eric Torrence**; senior research associate **Nick Sinev**; postdoctoral researchers **Mansoor Shamim** and **Chris Potter**; and graduate students **Elizabeth (Liza) Brost**, **Elizabeth Ptacek**, **Andreas Reinsch** and **Jacob Searcy**.

Scott Bridgham, professor of biology and environmental studies, was named a fellow of the **Society of Wetland Scientists**. Computer scientist **Kevin Butler** and physicist **Eric Corwin** both received **National Science Foundation Faculty Early Career Development (CAREER) awards**. The CAREER Award is NSF's most prestigious award in support of junior faculty members who exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and research.

Emeritus math professor **Charles W. Curtis** was named among the inaugural **2013 American Mathematical Society Fellows**, along with current math faculty members **Peter Gilkey** and **Huaxin Lin**; emeritus math professors **William Kantor**, **Gary Seitz** and **Lewis Ward**; and **Eugene Luks**, head of the Department of Computer and Information Science. The designation recognizes

members who have made outstanding contributions to the creation, exposition, advancement, communication and utilization of mathematics.

Archaeologist **Jon Erlandson** was elected to the **American Academy of Arts and Sciences**. The academy is a 230-year-old independent learned society and policy research center with 4,000 fellows, including more than 250 Nobel laureates and sixty Pulitzer Prize winners.

Biologist **Jessica Green** was named a **Guggenheim Fellow**. The Guggenheim appointment is for prior achievement and exceptional promise. Mathematician **Jim Isenberg** received the **Eisenbud Professorship** from the Mathematical Sciences Research Institute; the \$5 million endowed chair supports distinguished visiting professors to the Berkeley-based institute, whose mission includes the advancement of fundamental mathematical knowledge.

Brian Klopotek, an associate professor in ethnic studies, has been awarded a **National Endowment for the Humanities** year-long residential fellowship at the Huntington Library in the Los Angeles area; he will continue there with his research project, "Indian on Both Sides: Indigenous Identities, Race, and National Borders."

Heidemarie Laurent, an assistant professor of psychology, received the **Victoria S. Levin Award for Early Career Success in Young Children's Mental Health Research**; she is the second winner of the award, which was established by the Society for Research in Child Development to honor Levin's thirty-year career at the National Institutes of Health.

Kathryn Lynch, an environmental anthropologist and codirector of the UO's Environmental Leadership Program, was named one of ten **Chevrolet GREEN Educator Award** winners from around the country for 2012; Earth Force and the General Motors Foundation make the awards to inspirational educators who engage youth in innovative and interactive environmental learning.

W. Andrew Marcus, a geography professor and acting dean of the College of Arts and Sciences, and his colleagues on the **Atlas of Yellowstone team**, won the **American Publishers Association's Professional and Scholarly Excellence Award**; team members included **James Meacham**, a senior research associate and director and cofounder of the InfoGraphics Lab, **Alethea Steingisser** of the InfoGraphics Lab and Ann Rodman, Yellowstone's GIS coordinator. **Karen McPherson**, an associate professor of French, received the **Quebec Faculty Research Award** from the *Ministère des Relations Internationales du Québec*.

Christopher Minson, professor and head of the Department of Human Physiology, received the **Mentor Award** from the Medical Research Foundation of Oregon. The award goes to an Oregonian who has provided outstanding leadership and support of health research, education or the advancement of health care. Neuroscientist **Helen Neville** was among three U.S. professors chosen to receive the **William James Fellow Award** from the Association for Psychological Science; she also received the **Distinguished Cognitive Scientist Award** from the University of California at Merced.

Cris Niell, an assistant professor in the Department of Biology and member of the University of Oregon's Institute of Neuroscience, was named a **National Institutes of Health New Innovator**, which includes a five-year grant totaling \$1.5 million for "highly innovative research that has the potential for significant impact."

Geri Richmond, the Richard M. and Patricia H. Noyes Professor of Chemistry, was named the 2013 recipient of the **Charles Lathrop Parsons Award** by the American Chemical Society and was awarded the American Physical Society's 2013 **Davisson-Germer Prize in Atomic or Surface Physics**. She was also appointed by President Obama to the **National Science Board**, which establishes the policies of the National Science Foundation.

Biologist **Eric Selker** was named the 2013 **Outstanding Scientist of the Oregon Academy of Science**. Religious studies professor **Stephen Shoemaker** was named a fellow of the **National Humanities Center**, a private, nonprofit institution for advanced study in the humanities, as well as the **Institute for Advanced Study in Princeton**, an independent postgraduate center for theoretical research and intellectual inquiry and the **Institute for Advanced Study at the Central European University in Budapest**.

Josh Snodgrass, a biological anthropologist, received the first-ever **Michael A. Little Early Career Award of the Human Biology Association**. The award recognizes a scholar for significant contributions to the field of human biology and the promise of significant future contributions. **Lynn Stephen**, director of the Center for Latino/a and Latin American Studies and Distinguished Professor of Anthropology, was selected by the Mexican Academy of Sciences as a **Visiting Distinguished Professor**.

Carol Stabile, director of the Center for the Study of Women in Society and a professor in the School of Journalism and Communication and the Department of Women's and Gender Studies, received the **Ronald T. and Gayla D. Farrar Media and Civil Rights History Award** for her article, "The Typhoid Marys of the Left: Gender, Race and the Broadcast Blacklist." Linguistics professor **Cynthia Vakareliyska** received the **Bulgarian Studies Award** from the Bulgarian Academy of Sciences.

David Vázquez, an associate professor of English, received the **Residential Research Fellowship** from the Arizona State University Institute for Humanities Research.

Pete von Hippel, emeritus professor of biophysical chemistry and molecular biology, received the **Biophysical Society's 2013 Founders Award**. The award is given annually to recognize outstanding achievement in any area of biophysics. **Anita Weiss**, professor and head of the Department of International Studies, received a **Bellagio Center Residency** (Italy) through the Rockefeller Foundation. The center's mission is to promote innovation and identify impact-oriented solutions to critical global problems.

* Or by the last name of the first person alphabetically in a group or team

Continued from page 13

Their approach produces remarkably precise data: The electrical recordings, which are similar to electrocardiogram or EKG readings in humans, reveal the activity of muscles and neurons in the worms, allowing drug companies to zero in quickly on compounds that will disrupt neuromuscular function in worms without harming humans. The NemaMetrix chip can also be customized for environmental toxicity screening and for studies of aging, neurodegenerative disorders and other conditions.

Weeks and Lockery are about to start experiments on parasitic worms directly relevant to human health, and they're drawing support from major funders. Critical funding for validating the chip came from the Bill & Melinda Gates Foundation, which awarded them \$100,000 from its Grand Challenges Explorations program. The Oregon Nanoscience and Microtechnologies Institute has also provided funding for chip validation and developing NemaMetrix as a business.

The question now is whether Weeks and Lockery can persuade researchers around the world to enhance current drug-testing methods with new approaches that—while comparatively easy to learn—might feel a bit foreign.

"Things like recording electrical activity and the accompanying instrumentation—that can be scary for some scientists; it's kind of viewed as a dark art," Weeks said. "But for people like Shawn and me who are electrophysiologists, it's 1970s stuff. We can do it with our eyes closed."

WIND AT HER BACK

She is a scientist, first and foremost. She doesn't spend a lot of time toiling over unquantifiable concepts like fate or destiny.

Still, Weeks can't deny the serendipitous turns her life has taken: Meeting a magnetic professor who sparked her interest in neuroscience; learning a



music form in her hometown that would spark a transformation to serve people on the other side of the globe; finding the perfect partner for a technological breakthrough not at some far-flung location, but just down the hall.

Years ago, as Weeks was pondering what to do with herself after completing her first body of research, she came across an audio tape of lectures called "The Yoga of Work." In it, author Rick Jarow draws from eight different cultures to develop a process for identifying the occupation that will be personally satisfying and also a contribution to the world.

Weeks has committed to memory one of the philosophies from the lectures: No matter what you're doing, if you're going in the right direction, the universe puts a wind at your back.

"I feel that the wind has been behind me," Weeks said. "I've felt that. Ten years ago I could never have imagined that this is what I'd be doing today." ■

Breaking the Code— In More Ways Than One

It's not every day that a computer science professor approaches the theater arts department with a proposal for a play. But that's exactly what happened last year when Gene



Luks asked if the theater department might consider a production of *Breaking the Code*, a play about mathematician Alan Turing (above).

Luks, professor emeritus and head of the Department of Computer and Information Science, informed the theater faculty that 2012 was the centennial of Turing's birth and suggested that a production of this play would add an important dimension to other campus activities planned in celebration.

"He planted the seed," said theater instructor Joseph Gilg, who has been aware of the play since it was originally produced in the late 1980s and has long been interested in directing it. The suggestion sparked a positive response, and Gilg directed the UO debut of *Breaking the Code* this spring.

The play's title has multiple meanings. Turing is legendary for cracking the Enigma code the Germans used to transmit messages between submarines blockading the United Kingdom during World War II. Turing's work is famously credited with hastening the end of the war and launching the field of computer science.

In his personal life, Turing also broke the social code against homosexuality.

The crux of the play, says Gilg, is an exploration of societal values in the mid-twentieth century, when "people were unable to reconcile that someone was, on one hand, a hero and on the other hand, a homosexual."

While Turing did not necessarily lead a closeted life, he was not persecuted for his

Gilg made another connection with the computer science department by recruiting advanced students to help the actors interpret their roles on stage.

sexuality until well after the war. In 1952, he was arrested for "gross indecency" and found guilty. For sentencing, he was given a choice between prison and "chemical castration," which involved treatment with female hormones.

Turing chose the latter, and went on to suffer side effects such as the growth of breasts and crippling depression. He died in 1954 from cyanide poisoning, two weeks before his forty-second birthday; his death was ruled a suicide.

Turing's code-cracking work—which was top secret at the time—was not widely acknowledged until the 1970s, when documents detailing his contribution to the war effort became unclassified. Thus began a reframing of his life story. In 1999, *Time* magazine named him one of the "100 Most Important People of the Twentieth Century." In 2009, British Prime Minister Gordon Brown offered an official apology on behalf of the British government for "the appalling way he was treated."

"Turing was a fascinating character," said Gilg. "He would be considered a nerd today" for his eccentricities. For example, he was known to wear a gas mask while riding his bicycle around Bletchley Park, the site where he completed some of his most important work. While many thought this simply bizarre, it was in fact Turing's practical solution for dealing with allergies.



In the production of the play, Gilg made another connection with the computer science department by recruiting some of its advanced students to help the actors interpret their roles. And the department also helped fill the house for the production, inviting computer science faculty members and students.

Several other activities on the UO campus took place throughout the 2012–13 academic year in celebration of Turing, including an exhibit at Knight Library entitled *Alan Turing—the Founder of Computer Science*, which ran from February through April; it featured photos of Turing as well as the machines he worked with (such as the one pictured above) and the shelter he worked in during World War II.

The Department of Computer and Information Science also hosted several guest speakers in May who shared their perspectives on Turing's legacy. —LR

There Once Was a Student Who Lived in a Very Tiny House

What do literature and architecture have in common? April Anson's "tiny house."

Anson (right), a graduate student in the Department of English, has built—and lives in—a house about the size of a shed. It's 114 square feet, sitting comfortably on a sixteen-foot trailer for easy portability.

Anson studies postcolonial, ecocritical theory—essentially, the domination of people and land and how that is represented in literature. She was inspired by the small house movement, which advocates simple living, and saw the project as a perfect opportunity to combine her studies with her commitment to the environment.

"I had been long stressed by the amount of stuff that I own," Anson said. "I've become acquainted with what I need and don't need." —MC



Visit Online Extras at cascade.uoregon.edu for a video tour of April Anson's tiny house.

AEI Serves International Enrollment Growth



Win Min, originally from Burma and a native Burmese speaker, arrived in Eugene with the intent of enrolling at the University of Oregon. But first he spent a year in the UO's American English Institute (AEI), where he took part in an intensive program designed to improve his English skills. After finishing this course work, Min was ready to become a full-fledged, matriculated UO student.

Min is typical of the thousand-plus international students served each year by AEI, a program of the Department of Linguistics.

Over the past several years, the UO has been a virtual magnet for students from other countries. Since 2007, international student enrollment has grown by 114 percent, from 1,187 to 2,550 students in 2013; these students now comprise 10.4 percent of the UO's enrollment (versus 5.8 percent in 2007).

However, even though international students may have the grades and test scores to qualify for admission, many lack the level of English proficiency to be successful in a UO classroom. AEI provides a bridge to get them there.

A presence on campus since 1978, AEI offers two on-campus programs—

for international students: the Intensive English Program (IEP) and Academic English for International Students (AEIS).

According to Wendy Ames, AEI's director of marketing and alumni relations, IEP serves students like Win Min who need to improve their English skills so they can matriculate and succeed—not only at the UO but possibly at other Oregon University System institutions, depending on their choice of major.

IEP remained relatively small for twenty years, serving fewer than 100 students each term. However, by 2008 enrollment exceeded 250 per term and it has now ramped up to around 700. Enrollment for spring 2013 was 757.

This increase is due in large part to an influx of Saudi students, taking advantage of study-abroad incentives offered by the Saudi Arabian government, and an even larger wave of Chinese students, benefitting from relaxed restrictions on student visas.

All told, IEP students come from more than twenty countries, including Honduras, Libya, Korea, Kuwait, Thailand, Afghanistan and Japan.

The second on-campus program—

Academic English for International Students (AEIS)—helps students develop the skills they need for communication, cultural integration and participation in the academic environment of the university.

Students in AEIS classes have language test scores that are high enough to qualify immediately for UO admission, but need coaching in specific aspects of advanced English speaking, writing or cultural proficiency, to gain the skills and confidence for active classroom participation. Unlike IEP, AEIS classes are for-credit.

Enrollment in AEIS classes has more than doubled over the past few years, with more than 900 students enrolled this spring.

"AEIS allows international students who are not completely comfortable with their English or with American culture to ease into the academic environment," said Cynthia Kieffer, director of AEI.

"Exceptional people come here," said Kieffer. "AEI makes sure they have the language skills to succeed."

In addition to on-campus English language programs, AEI offers, in partnership with the U.S. Department of State and other funders, an e-learning program for teachers of English in more than 125 countries. AEI also offers custom-designed programs for English-teaching professionals. —LR

But Seriously . . . The Study of Sitcoms

Ellen is having a bad hair moment. So goes the plot line from an episode of *The Ellen Show*, the 2002 sitcom starring comedian and talk-show host Ellen DeGeneres.

The episode, entitled “Vanity Hair,” centers around Ellen feeling compelled to get a new hairstyle because she’s going to be featured in *Vanity Fair* magazine.

Her first attempt at a makeover results in a “big hair” disaster. So she finds another stylist—not realizing he is actually a pet groomer. He gives her a ’do that might look great on a Lhasa Apso while also inadvertently making Ellen look kind of hip, in an artfully messy (maybe even lesbian) sort of way.

Silly, yes. Entertaining, to be sure. But there’s much more going on here than an amusing plot line, says Quinn Miller (right), a new assistant professor of English and media studies.

Miller included this episode as part of a course this spring called U.S. Sitcom History, TV Criticism and Consumer Culture. In this course, he has engaged students in interpreting sitcoms as cultural commentary: what can they tell us about class tensions, gender roles, sexual norms, racial stereotypes and other provocative topics?

Ellen’s obsession with her appearance, for instance, can be seen as a satirization of our consumer obsession with fashion. And then there’s the shaggy-dog haircut itself, which does not conform to social norms about femininity. What does this outcome say about what a woman should look like? Is this an acceptable look for a lesbian but not a heterosexual woman? Why or why not? Who and what defines how a person of a particular gender or sexual orientation should look?

Miller also includes sitcoms such as *The Beverly Hillbillies* and *The Fresh Prince of Bel Air* to examine issues of class.



What can they tell us about class tensions, gender roles, sexual norms, racial stereotypes and other provocative topics?

The Beverly Hillbillies is predicated on a culture clash across class lines—namely, what happens when a family of presumably ignorant rural folk strikes it rich and moves to posh Beverly Hills.

Fresh Prince has a similar set-up, with the main character, Will, uprooted from a rough urban setting to live with relatives in yet another swanky Los Angeles neighborhood: Bel Air. Race further complicates the picture: Will and his relatives are all African American, and Will, played by Will Smith, is the street-wise interloper who mocks and critiques the behavior of those around him, as they aspire for even greater upward mobility.

In one episode, for example, he suggests to his cousin, who hosts a

television show, that she might have better ratings if she made more of an effort to reach her “brothers and sisters.” At first, she thinks he means her actual siblings, but once she catches on, she proudly

shows him her attempt to reach this audience: an African-themed fashion show—with a white model.

Another show Miller uses is *All-American Girl*, a short-lived mid-90s sitcom starring comedian Margaret Cho; she plays the rebellious daughter of a Korean American family. The sitcom plays off the conflict between two modes of assimilation—the mainstreamed family with traditional values versus the subversive daughter who studies French and hangs out with her mosh-pit-diving friends at her favorite club, Skank.

All of these examples can be seen as low comedy, says Miller, and sitcom writing is widely reviled. “But it’s not just bad

writing,” he said. “These sitcoms can illuminate how complex identity is.”

And it’s not just the writing that deserves close attention. There’s also the costuming, the blocking of scenes and even the timing of edits.

Take this tiny moment in an episode of *All-American Girl*: a friend of Margaret’s reveals that she’s been spying on both men and women through a two-way dressing room mirror in a store. But her mention of the woman is delivered as a throwaway line, and she then turns and exits. The camera cuts to the other characters, who do not react but continue with their conversation.

In this scene, the writing, blocking and editing all combine “to allow in something that might otherwise be too risqué,” Miller said, namely the suggestion of bisexuality.

Plus, it’s significant that a secondary character carries the theme of complicated sexual identity. “Minor characters are really important to building themes,” Miller said. They often illustrate nonconformity and thereby help illuminate “the cultural politics of U.S. television programming.” —LR

Stoking the Fires: Native American Literature

Last fall, when Kirby Brown

(right) taught Introduction to Native American Literatures, he had his first experience of having Native students taking one of his classes. Of the forty students enrolled, six had tribal affiliations and another four self-identified as Native American.

But weren't there Native students in his classes when he taught at the University of Texas?

If there were, they didn't make themselves known. "Texas had a pretty 'effective' Indian removal policy in the 1830s and 1840s—expulsion or extermination," he said. "And there are only three federally-recognized tribal communities in the state now."

Brown—a native Texan, a citizen of the Cherokee Nation and a new assistant professor of English at the UO—is referring to the era in the mid-nineteenth century when the United States systematically drove Native peoples from their lands and enacted legislation to force cultural assimilation and dissolve tribal political autonomy, all in the name of addressing the "Indian problem."

His understated summary of Texas-Indian history actually speaks volumes about what it means to be a scholar of Native American literature. Beyond the texts themselves, Brown delves into cultural anthropology, history, public policy and constitutional law—all of which provide crucial perspectives for understanding Native writers and their work.

His current research, for instance, views Oklahoma statehood as a pivot point.

In 1907, Oklahoma became the forty-sixth state in the union, merging the previous Oklahoma and Indian Territories despite tribal protest. Statehood obliterated the tribal authority of most Indian nations, including the



Cherokee Nation, and the decades that followed—until the Red Power movement of the 1970s—are often viewed as "an intellectually inactive and politically insignificant 'dark age' in Cherokee history," said Brown.

But Brown, who began this work as a graduate student at UT, has recovered Cherokee writings from this era that demonstrate the "persistence of the idea of Cherokee nationhood throughout the period." He is intrigued by questions such as, "What happens to the idea of nationhood in the absence of a national government? How do writers continue to remember, imagine and perform self-determination, belonging and family in these conditions?" His current book project, *Stoking the Fire: Nationhood in Early Twentieth Century Cherokee Writing*, focuses on four writers who articulate these themes.

In the classroom, Brown teaches the introductory course as well as an upper-division course on Native American writers, the latter featuring works that span numerous genres: mysteries, historical epics, prose poems, modernist novels and more.

One dimension he explores with this class is the influence of geography and unique tribal history, with a reading list of writers from such diverse tribal nations as the Osage, Choctaw, Anishinaabe, Salish and Laguna Pueblo among many others.

The fact that Oregon has nine tribes—and that Native Americans comprise 3 percent of Oregon's population (triple the national average)—was part of what attracted Brown to the UO. He is looking forward to researching written works from—and otherwise reaching out to—regional tribes to develop a course on Oregon tribal literature.

But he also points out that, while Oregon's Native population percentage is above average, the UO's enrollment of Native American students is below the national average (less than .6 percent versus 1 percent nationwide). So there's work to be done there as well.

Brown is already signed on to teach Native American literature in the Bridge of the Gods Summer Academy, a program aimed at directly addressing this disparity. This two-week residency program encourages Native American high school students to set themselves on a path toward college education. Students stay in residence halls on the UO campus and attend classes at both the UO and Lane Community College.

Brown is also among several core faculty members behind the newly approved Native American studies minor, which will be offered starting in fall 2013. The intent of the minor is to create an intellectual home for studying Native American issues, as well as educating the wider UO community about the state's Native American legacy and its complex, contradictory relationships with Native peoples.

The guiding principle—no matter what the program—must be service to the Native community, he says. "The most successful programs are those that emerge from the tribes' needs. They need to know that our community values are their values," he said. —LR

Social Sciences

Are Women Safer When They Learn Self-Defense?

A UO Sociologist Designs a Study to Find Out

“Walking into a bar the other night, a man grabbed the back of my cowgirl hat and when I turned around [he] continued to screw with it. I looked him in the eye and said ‘We don’t know each other. Don’t touch me.’ This is huge for me, I didn’t used to look men in the eye, and most often when I say things, it’s too quiet for people to hear.”

The young woman telling this story had taken a thirty-hour self-defense class at her university. She was reporting back, a year later, on her experiences since taking this course.

Her story is part of a study designed by UO sociologist Jocelyn Hollander that looks at the outcomes for 117 college students who received this self-defense training versus a control group of 169 students who did not. Of those, seventy-five from the first group and 108 from the second agreed to take part in a follow-up survey or interview.

The results are clear: a much lower percentage of the women who took the self-defense class reported incidents of unwanted sexual contact than the women who did not take the class (see chart).

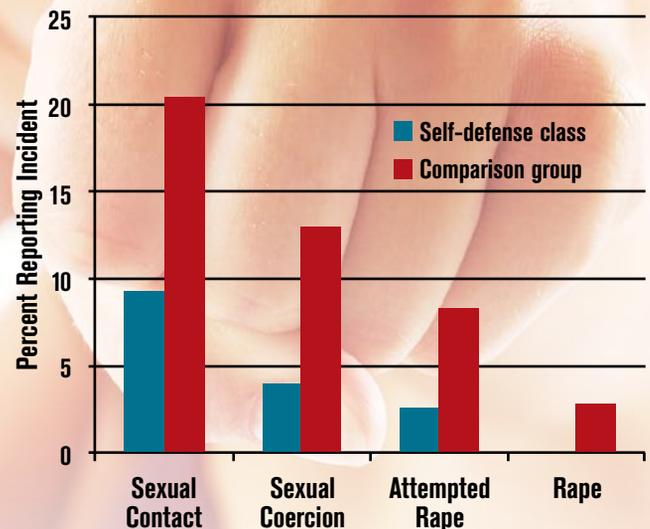
Overall, 12 percent of the women in the self-defense group reported some form of sexual intrusion during the follow-up period, versus 30 percent in the control group. This latter figure (nearly one in three) is consistent with the rate of sexual victimization of female college students nationwide.

Hollander’s study—the first of its kind that looks at women taking an extensive course that spans an entire college term, and that also evaluates outcomes over a full year—will be published in an upcoming edition of the journal *Violence Against Women*.



UNWANTED SEXUAL EXPERIENCES

This chart shows the percentage of female college students from two groups—those who completed a thirty-hour self-defense class and those who did not—reporting different types of unwanted sexual contact over a one-year period. A significantly lower percentage of those who received self-defense training reported incidents of any kind. *None* of the women who took the training reported a rape (versus 3 percent from the other group).



It must be noted that this was a feminist-oriented self-defense course, specifically designed for women, with a focus on the strengths of women's bodies (lower-body versus upper-body strength) and techniques to counter the holds and moves often made when a woman is attacked.

“A man at the bus stop was invading my space and . . . using ploys to see if I would do what he asked. He acted like he was joking with me and grabbed my arm near my wrist. I used the wrist release I learned and said loudly for him to leave me alone. . . . I think if I had been less resistant he would have taken it further.”

Perhaps more important than the physical techniques, says Hollander, is the philosophy of this course, which assumes that women are not helpless and can effectively resist (but with the caveat that women's ability to defend themselves doesn't mean they are responsible for stopping violence.)

The empowerment philosophy further assumes that even when physical defense isn't called for—when women are faced with obnoxious or harassing behavior that may not be imminently dangerous—they can also learn to set clear boundaries.

The importance of the boundary-setting dynamic is crucial, says Hollander, because “most unwelcome sexual contact doesn't involve a stranger jumping out of the bushes.” In fact, it more often involves an acquaintance or even someone closer.

But no matter whether it's a stranger or a friend, it's also important to recognize that unwanted sexual contact spans a range of behaviors; those shown in the chart are based on a set of legal definitions: sexual contact (unwanted touching), sexual coercion (unwanted sexual intercourse as a result of pressure or use of authority), attempted rape (an unsuccessful attempt at forced intercourse) and rape (forced intercourse).

As a result of this increased awareness, “a number of interviewees commented that

they had reevaluated past experiences and recognized them as assault after taking this class,” said Hollander.

Hollander's interest in this topic began when she took a self-defense course as an undergraduate at Stanford University. “It made me much less afraid,” she said, and this insight inspired her to ponder “the role of violence in women's lives, and the role of fear—how fear shapes women's lives.”

“I was at a football game and this drunk guy was stomping all over the place and he put his arm around me. Normally I wouldn't say anything. I was just like, ‘Oh, whatever, you know, he's just drunk. Let it go.’ But I actually spoke up and said, ‘Get your hand off of me.’ That's something I would have never done before. He was, ‘Oh, I'm sorry. I didn't mean to . . .’ So it worked. That's a really small thing, but to me it was just so empowering.”

A particularly valuable feature of a feminist approach to self-defense training, Hollander says, is that “it does not constrain women's lives or restrict their freedom—as do many other prevention strategies and advice to women.” Many trainings focus on the statistics that state the likelihood of a woman being raped in her lifetime, and these indeed are frightening. But while this data is important, it's only a starting point, says Hollander.

Most important are techniques to build confidence, as well as verbal and physical resistance skills—all of which Hollander credits for the low rate of incidents for those who took the class. With the right kind of training, “women are better able to discern the warning signs of assault. They are clearer about their own desires in an interaction, and more willing to speak and act on their own behalf.”

Taken together, she says, “these are all elements that reduce the odds of an assault.” —LR

Political Science Celebrates 100 Years

June 2013 marks the centennial of the Department of Political Science at the UO. Here are some of the major milestones in the department's 100-year history:

- 1913** Department of Political Science established
- 1918** First political science undergraduate degree awarded
- 1921** First graduate student enrolled in political science program
- 1927** First female graduate student enrolled
- 1948** Twenty of the twenty-seven political science students enrolled at this time were World War II veterans
- 1954** First PhD awarded
- 1968** First PhD awarded to a female student
- 1960** First female faculty member (Joyce Mitchell)
- 1995** First female department head (Deborah Baumgold)
- 2012** UO hires Yvette Alex-Assensoh as vice president for equity and inclusion; she is tenured in the Department of Political Science. In 2014, she will teach a new course in the department, Malcolm X, Martin Luther King, and the Civil Rights Movement.

Taking Students to ‘The Wire’

HBO Series as Urban Geography Text

Omar Little, one of the most popular characters in the critically acclaimed HBO drama *The Wire*, is a stick-up man who robs drug dealers. He dresses like a hip-hop gangster and he’s capable of pulling a gun in the blink of an eye and putting it in his victim’s face, laughing all the way.

He also helps UO assistant professor Katie Meehan teach a course in urban geography.

How many college classes require that students “be willing to watch four to six hours of television each week”? Welcome to Geography 442/542, where Meehan uses the gritty cable series to examine how capital and culture shape the American city.

Produced in and around Baltimore, *The Wire* focused on the illegal drug trade, the seaport system, the city government and bureaucracy, the school system and the print news media over five seasons, ending in 2008. Recognized for its realistic portrayal of urban life and deep exploration of sociopolitical themes, *The Wire* has been described by many critics as one of the greatest TV dramas of all time.

Then a graduate student at the University of Arizona, Meehan was overwhelmed when she first encountered the series.

“I watched the whole series in three months—every night, four hours at a time,” Meehan said. “I thought, ‘this is the greatest series on all the urban issues of the world that I’ve ever seen, wouldn’t it be great to teach a class around this?’”

Meehan recognized that Baltimore’s ills as portrayed in the show—

The gritty cable series examines how capital and culture shape the American city.

“(The show) introduces you to many new ideas that you may, or may not, have experienced in your life, such as sexism, racism and homophobia.”

deindustrialization and capital flight—were the same facing many U.S. “rustbelt” cities. With *The Wire* providing the text, she asks students to answer questions such as “what explains persistent urban decay?” by drawing on a variety of theoretical frameworks.

Her approach underscores the fact that geography is much more than the memorization of cities and capitals. Through *The Wire*, Meehan and her students investigate the importance of physical space and “the geographies of social difference” in a major American city, including how race, class, religion, gender, and sexuality shape bodies, identity and place.

In a class last winter, Meehan played a clip that forces students to reconsider stereotypes of homosexual men as soft or effeminate. In it, Omar—who is gay—is affectionate with his boyfriend, although he doesn’t wear his homosexuality on his sleeve and throughout the series he remains one of its most powerful, assertive characters.

“Once students develop empathy for certain characters they take them seriously—it gives them the tools to think through abstract and often difficult concepts,” Meehan said.

Glenn Peterson, an undergraduate geography major, said students expecting the course to be a cakewalk will be disappointed.



MATT COOPER

Katie Meehan uses the character of Omar Little to challenge stereotypes about gay men.

“You can’t just sit on Facebook and casually glance over at the TV—you have to understand what is happening, sometimes rewinding multiple times to get a feel for what just happened,” Peterson said. “(The show) introduces you to many new ideas that you may, or may not, have experienced in your life, such as sexism, racism and homophobia.”

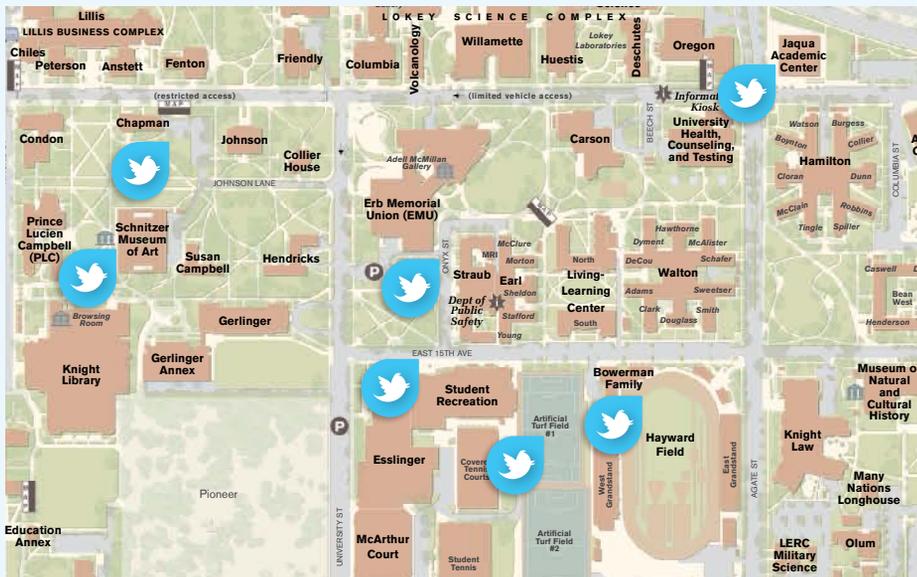
Meehan was awarded the 2011–12 Sherl K. Coleman and Margaret E. Guitteau Professorship in the Humanities from the Oregon Humanities Center, which included funds to support and further develop the course.

She plans to teach *The Wire* for a few more years, but that doesn’t mean her fascination with gripping television dramas will come to an end. She’s already got designs on a course in “political geography.”

The text?

Deadwood, another acclaimed HBO drama, set in 1870s South Dakota and exploring prostitution, misogyny, violence, politics and, according to Wikipedia, “bringing order from chaos.” —MC

Mock Cholera Outbreak Provides Online Mapping Lesson



Students monitored mock tweets from the public for comments that might lend clues as to the source of the contamination's outbreak.

Last fall, there was a cholera outbreak

on the UO campus, and no information on the contamination source.

Fortunately, it was a mock crisis—and Chris Bone's Geography 181 students were on the case.

Bone, an assistant professor of geography, teaches everyday geospatial technologies such as global positioning systems and mobile phones with location-based tracking, and how they affect our lives and society. Last fall, he was the first to teach the geography department's new course, Our Digital Earth, focusing on how online mapping and social media shape society.

From Google Earth to Facebook to Twitter, the course covers how geospatial data are collected and used, how the technologies have transformed the way we make decisions and the societal issues that result. Topics include online mapping; satellite images; crowd-sourcing; and mobile technologies for responding to natural disasters, galvanizing underrepresented communities and embedding spatial information into our daily activities.

"It is a very hands-on course for students," Bone said. "They engage in exercises such as collecting environmental

data on the UO campus and performing citizen journalism by creating digital atlases of neighborhoods in Eugene."

A high point for the course was the cholera exercise: Bone recreated the 1854 outbreak that killed more than 600 people in London, challenging students to use the latest technology to find the contamination source on campus.

Bone's students broke into small teams to use online mapping and social media to determine the location of the contamination. Students tracked the faux epidemic through medical reports and alerts arriving by e-mail and Facebook posts, while monitoring mock tweets from the public for comments that might lend clues as to the contamination's source (see graphic).

Some days students received updates on the faux crisis only through e-mails; on others, they received an onslaught of information in the form of Facebook posts, tweets and alerts. Most groups were able to determine the source of the cholera outbreak—a water fountain in Straub Hall—after at least 10 days.

Students Josh Hughes, Forrest Hetzel, Sara Welge and Veronica Landeros, for example, zeroed in on the contamination

- 🐥 **Duck fan** @UOrox: "Feeling sick. Really hoping it isn't whatever is going around." #uocholeraexercise
- 🐥 **Eugene Steve** @eugenestev: "Missing ENVS 201. Not feeling well at all." #uocholeraexercise
- 🐥 **UO student** @studentweeter: "Wow—things are all closed here. I heard the whole track team is sick." #uocholeraexercise
- 🐥 **UO dude** @ducksdude: "Ducked in here to get out of the rain. There are more medics in here. Several people look BAAAAAD!!!" #uocholeraexercise
- 🐥 **Melanie** @UOmel: "EMU is all shut up. Seriously, where is there anywhere to get a drink?" #uocholeraexercise
- 🐥 **ENVS student** @envirogirl: "What's with the ENVS students today? Did we all catch something in class?" #uocholeraexercise
- 🐥 **UO frisbee** @Ultimate UO: "Ultimate frisbee game cancelled today. Half the people got sick since Tuesday's game." #uocholeraexercise
- 🐥 **Tree hugger** @treesR4hugs: "Leaving practice and heading over to class at Willamette by myself today. Where is everyone?" #uocholeraexercise

source by using a laptop to map all water outlets in the West University Neighborhood. "This is the path where (the victim) has been," Landeros said, tracing her finger along the computer screen as her team huddled in class one day. "I feel like it's going to be a water source in a building."

The team narrowed the outbreak location down to one of two spots, one of which was the correct location.

"Like most other groups, the Landeros team was cautious not to provide their answer too quickly as the students were made aware that a wrong decision could lead to further new cases of cholera," Bone said.

In the course, Bone explains how real-time mapping technology is used by "riot managers" to keep unruly crowds one step ahead of police officers. Students also learn how to identify urban "food deserts" where low-income families have minimal access to affordable yet nutritious food.

"Students can create something tangible that means something to them because of the social component," Bone said. "We don't focus on the technology, we focus on the problem. The students know the technology"—he laughed—"more than I do!" —MC

Natural Sciences

The Divine Stick Versus the Divine Carrot

For as long as people have believed in heaven and hell, a debate has simmered.

Religion makes people act better, supporters have long maintained. Religion poisons everything, an increasingly vocal—and youthful—minority responds.



Long missing from the discord has been empirical evidence. Until now.

Azim Shariff (above), assistant professor of psychology and director of the Culture and Morality Laboratory at the UO, explores the evolutionary origins of moral behavior, with a special focus on the positive and negative social consequences of religions and related cultural systems.

As psychology has developed tools such as “unconscious priming” to build carefully controlled experiments to measure the psychological impact of religion, he has delved deeply into religion’s influence on generosity, honesty, prejudice and conflict. (Unconscious priming is the use of stimuli to trigger specific thoughts in the unconscious mind, Shariff explained.)

“We need data,” Shariff said. “The main thing I’ve tried to do with my work is add data to the discussion.”

In 2011, Shariff and Ara Norenzayan of the University of British Columbia upended the landscape of accepted religious theory with the first empirical paper to establish an important behavioral divergence between belief in a benevolent God versus belief in a malevolent one.

Belief in God has long been held to encourage moral behavior; Shariff and Norenzayan showed, however, that much depends on God’s temperament—specifically, they found that belief in a vengeful, even angry God was the critical factor. In two studies of forty to sixty undergraduate students, belief in God

did not accurately predict the propensity to cheat but viewing God specifically as punishing and less-loving was consistently associated with lower levels of cheating.

“When it comes to deterring transgressions in anonymous situations,” Shariff said, “the divine stick appears to hold considerably more power than the divine carrot.”

Shariff made an even bigger splash last year when he turned to international data on crime.

Using statistics from the United Nations Office on Drugs and Crime and international surveys of religious beliefs, Shariff and Mijke Rhemtulla of the University of Kansas conducted a comprehensive analysis of twenty-six years of data involving 143,197 people in sixty-seven countries.

Their study, which appeared in the Public Library of Science journal *PLoS ONE* and was quickly picked up by

mainstream media, found that criminal activity is lower in societies where people’s religious beliefs contain a strong punitive component versus locations where religious beliefs are more benevolent.

Indeed, a country where many more people believe in heaven than in hell is likely to have a much higher crime rate than one where these beliefs are about equal (see chart). These effects held true when statistically controlling for other cross-national differences such as levels of wealth and inequality.

The discovery supported a growing body of evidence that supernatural punishment emerged as an effective cultural innovation to encourage ethical behavior. Harvard University researchers found in 2003, for example, that gross domestic product was higher in developed countries when people believed in hell more than they did in heaven.

“At this stage, we can only speculate,”

All in a Day’s Work

At first glance, the thousands upon thousands of leaf-cutter ants in Robert Schofield’s laboratory suggest nothing so much as chaos: They swarm over the terrain in glass aquariums and dart through a complicated maze of plastic tubes, relentlessly crawling over and around one another as they pursue tasks that seem apparent only to them.

But look closely: Young adults use scalpel-sharp mandibles to cut pieces of Himalayan blackberry leaf with the precision of a seamstress and “foragers” dutifully carry the fragments off to the nest. “Generalists” wiggle these leaf pieces into the nooks and crannies of a fungal garden that provides the colony with its sustenance and “gardeners” tend it. And there are “majors”—the biggest ants, two or three times the size



COURTESY OF ROBERT SCHOFIELD

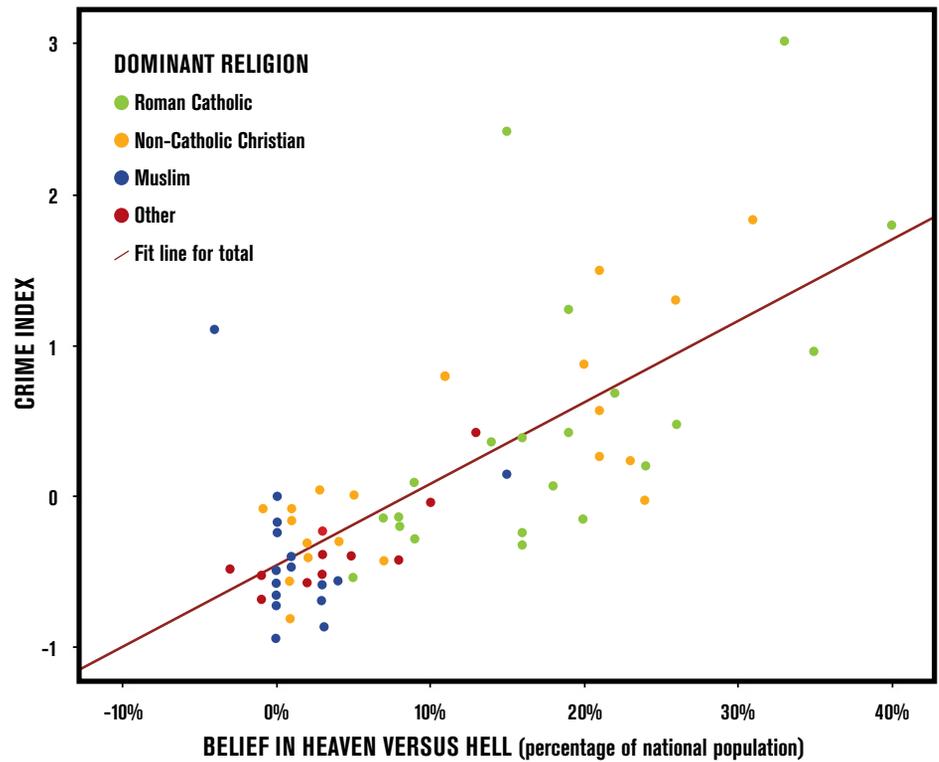
Shariff said, “but it’s possible that people who don’t believe in the possibility of punishment in the afterlife feel like they can get away with unethical behavior. There is less of a divine deterrent, and perhaps even a bit of a divine *license*.”

So what’s the point of heaven?

Shariff’s latest conquest is answering why heaven survives as a religious concept, if not to encourage clean living. Using Gallup World Poll data, he’s found that the degree to which more people in a nation believe in heaven versus those who believe in hell strongly predicts the nation’s global rank on happiness—even how good people feel on a given day. Colombians, for example, scored high for happiness and belief in heaven; Tanzanians landed on the other end of the spectrum. Again, these comparisons statistically control for other economic or social differences between the countries.

“Whereas hell exists to make people act good, heaven exists to make people feel good,” Shariff said. “We’re studying that and trying to see if the data support it.”

—MC



Each dot represents a country (labels omitted for readability). Those toward the left have higher percentages of people who believe in hell but not heaven; toward the right, higher percentages who believe in heaven but not hell. Countries with a higher “hell” percentage have a lower crime index.

of the smallest—who, like bulldozers, keep trails clear of debris so this entire operation runs smoothly.

For Schofield, the tiny leaf-cutter ant is a model social insect, one bearing important clues about how complex behaviors evolve in simple organisms.

It’s not the area of focus you’d expect from a senior research associate in the physics department. But Schofield is an interdisciplinary, merging principles from physics, biology and materials science in pursuit of his passions.

As a physicist, Schofield scours the cosmos for collisions of black holes. Einstein theorized that these events produce “gravitational waves”—ripples in the space-time continuum that transport energy but have yet to be directly detected.

Schofield has already made a splash with the leaf-cutters. In 2010, he discovered that the ants switch jobs after their keen-edged mandibles have dulled;

it was the first suggestion that some social insects stop performing certain tasks after they become inefficient. This discovery drew attention from the BBC, *U.S. News & World Report*, NPR and other media, many of them riffing off the idea of “social security” for insects.

Schofield’s latest queries into the world of insects and arthropods owe as much to economics and materials science as they do biology.

With the leaf-cutters, Schofield is studying “energy economics”—the notion that the ants are shrewd economists, deriving slightly more in “energy profit” from the leaves than they expend to harvest them. The researcher is simultaneously probing the composition of the jaws, leg claws, stingers, fangs and teeth of scorpions, spiders and nereid worms; these arthropods’ “tools” are composed of little-studied biomaterials containing zinc, manganese and other

heavy elements, presumably providing optimal resistance to fracture.

Schofield has discovered a surprising amount of crossover between biology and physics.

Micromanipulators, for example, are used in physics to guide the path of a laser beam; Schofield reconfigures them to steer an ant mandible through a leaf, allowing him to measure force. Similarly, many of the calculations Schofield uses in biology are the same as those he incorporates in his work at the Laser Interferometer Gravitational-Wave Observatory, the location of a massive astronomical search that includes more than 800 scientists at fifty institutions.

For Schofield, this cross-pollination of disciplines is all in a day’s work.

“I never could decide if I wanted to be a physicist or a biologist,” he said. “So I became both.” —MC

Proton-Smashing Team Looks Beyond the Higgs Boson

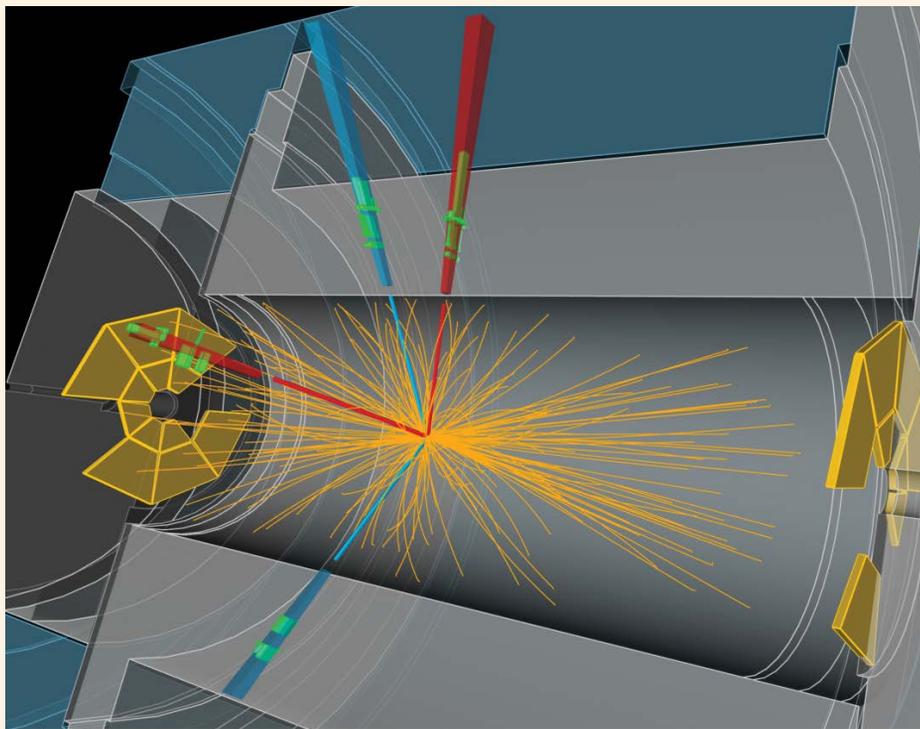


IMAGE COURTESY ATLAS EXPERIMENT © 2013

A computer reconstruction of a Higgs boson “candidate” decaying to two electrons and two positrons (highlighted in red and blue). The yellow tracks are particles from the breakup of proton parts that do not produce a Higgs boson.

On the Fourth of July last year, physicists smashing together protons in a facility near Geneva announced that they had discovered a new elementary particle—that is, a particle that cannot be broken into smaller pieces. This particle, if confirmed, would fill a gap in our understanding of the laws of nature that govern matter. Scientists called the discovery “historic,” perhaps the biggest breakthrough in a half-century.

And the UO’s David Strom was the man at the trigger.

Strom, a physics professor, played a pivotal role in last summer’s monumental discovery of what is believed to be the elusive Higgs boson, a particle that since 1964 has existed only as a theory.

Stationed 500 feet underground at the Large Hadron Collider, the world’s largest particle accelerator, he led a team of UO scientists and others who, armed with computers and calculations, sifted through

the nearly 1 billion proton collisions per second to capture the events that appear to reveal the Higgs. Strom’s title: trigger coordinator.

It was no accident that he was elected to the post by the 3,000 physicists from around the globe who are working on the project.

Strom and the UO have developed a sterling reputation for writing the algorithms and making the precise measurements that can show evidence of the particle in question. Strom and UO physicist James Brau, the Philip H. Knight Professor of Natural Science, lead a strong university presence in Geneva that also includes physics professor Eric Torrence and assistant professor Stephanie Majewski, as well as two postdoctoral students and five others.

“Our group is very well-known there,” Strom said.

The UO’s role in this discovery (a

discovery some felt was slighted for last year’s Nobel Prize) began with the university’s decision 25 years ago to begin a program in experimental particle physics, Brau said. Interest in supercolliders by professors Nilendra Deshpande and Davison Soper led to the development of a group that began with Brau’s arrival in 1988 and Strom following soon after.

Over the ensuing years, the group built its reputation while working with the European Organization for Nuclear Research and the Stanford Linear Accelerator Center (SLAC) National Accelerator Laboratory in California on projects that consistently earn funding from the Department of Energy and the National Science Foundation.

“The university’s decision to add experimental particle physics was a long-term investment that was aiming toward the Higgs boson from the beginning,” Brau said.

The particle that has been discovered appears, like baseball’s knuckleball, to have no spin, which would distinguish it from all known elementary particles. If the particle is confirmed to be a Higgs boson—named for physicists Peter Higgs and Satyendra Nath Bose—it would provide the missing link in explaining why elementary particles (and, therefore, the fundamental particles that make up the visible universe) have mass. That could open up new areas of study and shed light on the early stages of the universe while furthering our understanding of “dark matter,” which comprises the vast majority of the cosmos but remains largely a mystery.

That’s where Strom has set his gaze.

In fact, he was beginning to look beyond the Higgs particle even as he was looking for it: When evidence of the new boson ultimately appeared within the mathematical calculations that he and other scientists had long predicted, Strom barely spent time popping the cork on a bottle of champagne before turning to what it might mean.

“I want to go beyond the Higgs boson,” he said. “I want to look not just at how electromagnetic and weak forces are related, but at how all the forces in the universe are related.” —MC

Fuel for Thought



It was a visit to the University of Oregon by *Cheers* star Woody Harrelson that planted the seed of inspiration in a young Virginia

Klausmeier (above).

She was an undergraduate when Harrelson, a passionate environmental activist, arrived on campus one day in an ecogroovy biodiesel bus, then spoke at a sustainability event about the importance of alternative fuels. For Klausmeier, all the environmentalism she'd been exposed to as a kid growing up in Eugene suddenly coalesced.

"That was a tangible moment," she said.

Klausmeier, who graduated in 2004 with a degree in general science (chemistry focus) and completed her master's degree at the UO in 2006, went on to a job with a Fortune 500 medical device company. But she couldn't shake the feeling that her career should be better aligned with her environmental values and, in 2010, she took the plunge, trading the security of a steady paycheck for the challenge of entrepreneurship.

Klausmeier is cofounder and CEO of Sylvatex, a fuel technology company that has developed a renewable blend that is mixed with diesel to lower emissions and meet other environmental mandates. The Silicon Valley startup will work with refineries to blend its product as a simple solution that cuts operating and capital expenses while expanding markets.

Klausmeier is continuing the legacy of her late father, William, a scientist who developed the company's patented "microemulsion" formula.

"My father was a straight-up chemist; the way he talked was very technical," Klausmeier said. "He was playing around in the laboratory with stuff when I was a kid and I would play around with it, too, but not with the understanding of what it was."

Over time, Klausmeier began working with her father in testing and development

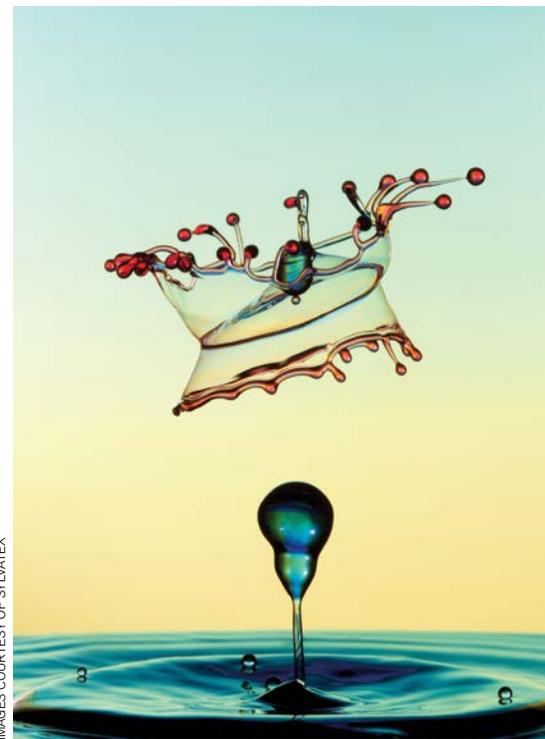
What began with the father working quietly in a Eugene laboratory is now an aspiring business moving forward under the daughter.

of products. Following his death in 2008, Klausmeier and a team of investors launched Sylvatex.

The company is actively seeking financial support from UO alumni and others. Sylvatex is also creating its own tailwind: The company has won awards at industry conferences and venture-capital competitions while drawing funding from an internationally known fund, Greenstart, that assists green tech startups.

Klausmeier has also been recognized for her leadership. She was recently named one of the top ten women in biofuels by a trade organization and has been selected among a small group of female CEOs for mentorship by U.S. Senator Dianne Feinstein.

There can be advantages to being a young woman in an industry long dominated by men. "I get in the door to a lot of places," Klausmeier said. "I'm



IMAGES COURTESY OF SYLVATEX

mostly the only woman in the room, and I'm on the younger side, as well. I think I get a lot more attention because people are thinking, 'who is this person?' I'm not just part of the masses."

Klausmeier credits the UO for teaching her to think like an entrepreneur, and human physiology faculty members Sierra Dawson and Li-Shan Chou, in particular, for inspiring her to dream big while maintaining a healthy balance between work and life.

Klausmeier, in fact, isn't the only Duck at Sylvatex: chief technology officer Kristen Aramthanapon, who earned a bachelor's degree in biochemistry in 2003, is a longtime family friend now sharing the duties in making the company a success.

"We're like sisters," Aramthanapon said. "I run the R and D side, Virginia runs the business side and we split operations."

What began with the father working quietly in a Eugene laboratory is now an aspiring business moving forward under the daughter.

"It almost takes two generations to think of an idea, develop the technology and get it to commercialization," Klausmeier said. "The thing that's driving me is having the opportunity to make such a big impact in the world." —MC

Online Extras

cascade.uoregon.edu



TINY TOUR: Take a video tour of April Anson's ultra tiny house at cascade.uoregon.edu. Anson, a graduate teaching fellow in English, was inspired by the small house movement, an architectural and social movement that advocates simple living in small homes. She built her home as a hands-on experience in combining her studies with her commitment to sustainability.



GERM OF AN IDEA: The design of buildings should account for the ubiquity of germs, says UO biologist Jessica Green, a TED Fellow. She covers this topic in one of her TED Talks, and has also developed an animated TED Ed video for kids. Fellow biologist Brendan Bohannon has also given a germ-centric TEDx talk on "The Human Body as Ecosystem." Watch all of the above at cascade.uoregon.edu.



MAIL BAG: Our "Ask the Expert" column in the fall 2012 issue drew several letters taking issue with chemist David Tyler's conclusions about "life-cycle assessments"—analyses that compare the environmental impact of various consumer options, such as cloth versus disposable diapers and commuting by car versus public transportation. Read the letters at cascade.uoregon.edu.



GEOLOGICAL SPLENDOR: Marli Miller, a senior instructor in geological sciences, has a photographer's eye for her research. Her website includes more than 1,600 of her spectacular photographs, covering fifteen categories of earth science, from fjords to fossils to weathered formations—and beyond. Pictures are searchable by keyword and she's selected for us a cross-section of her favorites. See them at cascade.uoregon.edu.



AFRICAN ACOUSTICS: Biology professor Janis Weeks and Marilyn Mohr, a senior conservation technician with UO Libraries, play the mbira, an African musical instrument that consists of a wooden board with staggered metal keys. Visit cascade.uoregon.edu to see a video interview, where they discuss the instrument, how to play it and why they were drawn to this quintessential African sound.



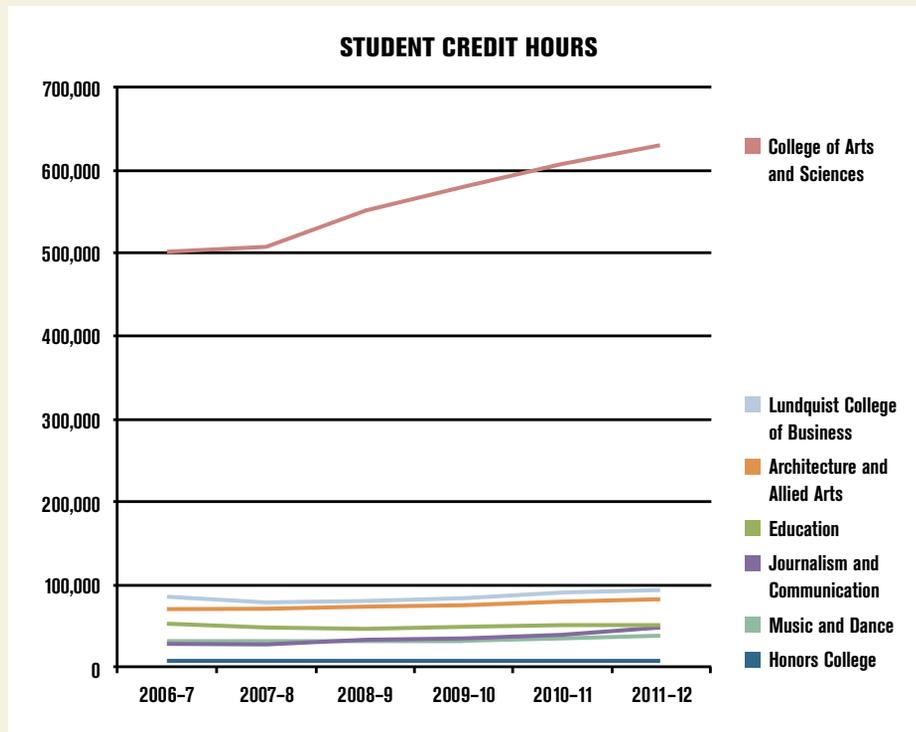
DUKTALKS: Check out the College of Arts and Sciences' version of the hugely successful TED Talks series: DUKTalks. ("D-U-K" stands for Discovering University Knowledge.) DUKTalks made its debut last fall, featuring six faculty members who represent the best of what arts and sciences has to offer, on topics such as "The Birth of the Superhero" and "The Eco-Efficiency Paradox." Watch the videos at cascade.uoregon.edu.



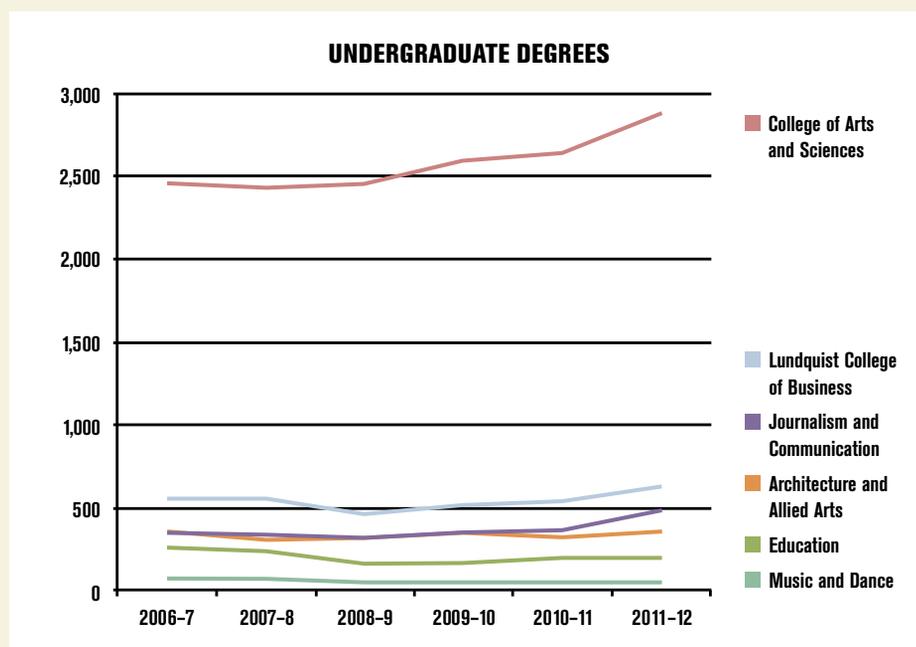
FOLLOW US ON FACEBOOK: The UO College of Arts and Sciences has an easy-to-find Facebook address: facebook.com/UOCAS. We invite you to follow us by clicking on the "like" button on our page.

By the Numbers

As Scott Coltrane has shared in his Dean's Page in this issue, the 20 percent enrollment increase experienced by the UO over the past five years has had a big impact on the College of Arts and Sciences. The graphs below tell the story.



Because virtually all UO undergraduates take their core academic requirements in CAS—plus, two-thirds of all UO undergraduates go on to declare a major in CAS—this has meant a steep increase in student credit hours taken in the College of Arts and Sciences. (Student credit hours equal the total number of credits taken by all students.) For CAS, these have risen from around 500,000 five years ago to well over 630,000 today. This is almost three times the increase for all the professional schools combined.



A similarly steep climb can be seen in undergraduate degrees awarded by CAS—from 2,445 in 2007–8 to 2,894 in 2011–12.

CAS Degrees

(Excluding certificates, minors and specializations)

- Anthropology BA, BS, MA, MS, PHD
- Applied physics MS
- Asian studies BA, MA
- Biochemistry BA, BS
- Biology BA, BS, MA, MS, PHD
- Chemistry BA, BS, MA, MS, PHD
- Chinese BA
- Cinema studies BA
- Classics BA, MA
- Comparative literature BA, MA, PHD
- Computer and information science BA, BS, MA, MS, PHD
- Creative writing MFA
- East Asian languages and literatures MA, PHD
- Economics BA, BS, MA, MS, PHD
- English BA, MA, PHD
- Environmental science BA, BS
- Environmental sciences, studies, and policy PHD
- Environmental studies BA, BS, MA, MS
- Ethnic studies BA, BS
- Folklore BA, MA, MS
- French BA, MA
- General science BA, BS
- General social science BA, BS
- Geography BA, BS, MA, MS, PHD
- Geological sciences BA, BS, MA, MS, PHD
- German BA, MA, PHD
- History BA, BS, MA, PHD
- Humanities BA
- Human physiology BA, BS, MS, PHD
- International studies BA, BS, MA
- Italian BA, MA
- Japanese BA
- Judaic studies BA
- Latin American studies BA
- Linguistics BA, MA, PHD
- Marine biology BA, BS
- Mathematics BA, BS, MA, MS, PHD
- Mathematics and computer science BA, BS
- Medieval studies BA
- Philosophy BA, BS, MA, PHD
- Physics BA, BS, MA, MS, PHD
- Political science BA, BS, MA, MS, PHD
- Psychology BA, BS, MA, MS, PHD
- Religious studies BA, BS
- Romance languages BA, MA, PHD
- Russian and East European studies BA, MA
- Sociology BA, BS, MA, MS, PHD
- Spanish BA, MA
- Theater arts BA, BS, MA, MS, MFA, PHD
- Women's and gender studies BA, BS



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