CASCADE

UO COLLEGE OF ARTS AND SCIENCES



Dean's Page



Scott Coltrane, Tykeson Dean of Arts and Sciences

Beyond bragging rights, faculty awards are part of the mix that helps us attract the most talented students and support the prosperity of our state.

In this issue we feature award-winning science faculty members, building on past issues where we've featured award winners from the humanities and social sciences. Besides bragging rights, why do these faculty awards matter?

The strength of our faculty defines us as the state's flagship research university and sets us apart from other colleges and universities in Oregon. As the UO's interim president Bob Berdahl emphasized last year before retiring as head of the Association of American Universities (AAU), basic research drives discovery and economic growth, and it is American research universities that led the world in this endeavor in the twentieth century and on into the twenty-first. Comprehensive flagship public research universities like the University of Oregon, along with private universities with deep pockets, are the ones that can train the next generation of innovators through their unique combination of research and education.

To be a member of the AAU, and therefore recognized as a research leader, universities are evaluated on the strength of their faculty, whose members are measured by their research productivity and recognition of their scholarship, including the awards they receive. In just the past year, faculty members of the College of Arts and Sciences have been recognized with numerous awards that help maintain our AAU status.

In 2011 alone, UO psychologist Michael Posner received the Carty Award for the Advancement of Science from the National Academy of Sciences, chemist Geri Richmond was elected to membership in the National Academy of Sciences (see page 22), biologist Eric Selker was named a fellow of the American Academy of Arts and Sciences and chemist Mike Haley and biologist Craig Young were both named fellows of the American Association for the Advancement of Science.

Other 2011 awards included fellowships from the American Council of Learned Societies, the National Endowment for the Humanities, the Institute for Advanced Study, the Alexander von Humboldt Foundation, the Alfred P. Sloan Foundation, the Fulbright Program and the Pew Charitable Trust. These are some of the most prestigious awards given to scholars and scientists, and these recognitions speak volumes about the excellence of the University of Oregon. In the past year, our faculty members received many additional national and regional research awards—for example, see a list of recent science award winners on page 23.

Our cumulative track record is also impressive, with a remarkable sixty Guggenheim Fellows and thirty-three Fellows of the American Association for the Advancement of Science among College of Arts and Sciences faculty members.

It's imperative that we hire and retain faculty members capable of winning such awards in the future if we expect to attract and educate the most talented young people and to ensure a prosperous future for Oregon. To succeed, we must make certain that the University of Oregon has the resources, the regulatory framework and the freedom necessary to fulfill its mission—all reasons that UO leadership is committed to advancing legislation that will establish an independent governing board for the University of Oregon (see Online Extras, page 28, for links to legislative updates). This is the one clear pathway to remaining a top research university.

Thanks for your support in helping ensure our future success!

Sealt Oftran

CASCAE

UO COLLEGE OF ARTS AND SCIENCES

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

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Cover: Actress Hazel Scott (photo courtesy Oregon Historical Society)



UNIVERSITY OF OREGON

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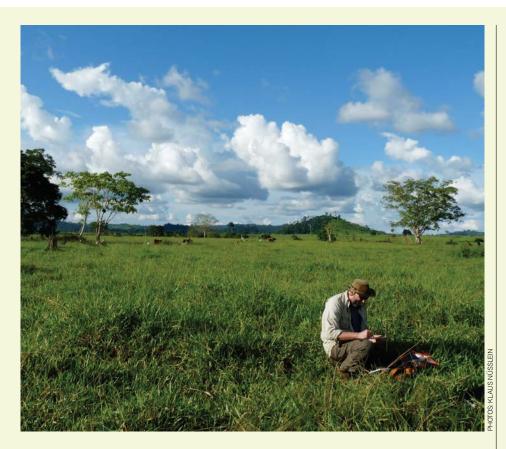
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Ask the Expert

Google This: The Story of Science



Last year, Google, Inc., launched its Google Science Communication Fellows program, a collaborative training that brought together twenty-one climate change scientists to explore ways that Google's technology might be used to better promote scientific investigation. UO biologist Brendan Bohannan (far right and above, analyzing soil samples in an Amazon pasture) was among this selective first class of Google Fellows.

This builds on Bohannan's previous experience as a Leopold Fellow, another prestigious program that convenes top scientists to advance the state of science communications. But while the Google fellowship—and the direct interaction with Google staff members (or Googlers, as Bohannan calls them)—focuses on the ways in which Google's computational analysis tools might further public understanding of climate change, the Leopold Fellowship is more of a hands-on training that helps scientists tell compelling stories to the media. Bohannan characterizes the Leopold work as "life changing."

In this interview, Bohannan reflects on how these experiences have profoundly changed the way he teaches, conducts fieldwork and tells stories about his research on microorganisms and biodiversity.

Interview by Lisa Raleigh

Q: Why is it important for scientists to be better communicators?

A: Scientists, especially in the U.S., have an ethical responsibility to do a very good job of communicating science because most science is publicly funded. We owe it to the folks who are paying for this science to do a good job of communicating what we're discovering. There's also been a kind of antiscience backlash, especially around the science of global change—for instance, attempts by certain members of Congress to make certain scientific investments look silly. So we have the responsibility to do a better job of communicating what we do so the public can make up their minds in an informed way about whether that critique of science is valid or not.

Also, I think that we're falling behind as a country in terms of our prowess in science and technology, and some of that is because it's been hard to get young people to realize what a wonderful career science can be. That's our fault, at least in part, as scientists. We don't do a good job of communicating the excitement, the joy of discovery—all the things that sustain us and fulfill us as scientists. There's a kind of urgency about this, as we've seen other societies do a much better job of recruiting new scientists.

Q: What are the challenges in telling science stories?

A: One of the big challenges is the way we approach storytelling about science. For scientists, there's a big backstory that we have to give credit to and we do that by starting with all the people who have worked so hard to get science where it is today, the areas where we have great uncertainty and the areas where we have less uncertainty. We are trained to paint that picture to provide a context for the little piece that each of us is involved in. So we start really big. But if you're a reporter, it must seem baffling. You want to know: "Where's the story here? Why should I care? You're telling this enormous

historical tale about your science and you still haven't talked about what you're doing and why it's important."

Fundamentally, the motivations are just so different. As a reporter, you want to tell a compelling, factually accurate but interesting story. As a scientist, it's important for us to give credit to those who preceded us and to do a responsible job of portraying the uncertainty around our science.

Q: Let's talk about uncertainty. That's a really interesting issue, because you can turn on the TV any day and you'll hear a report about a scientific study and it sounds like "here's the definitive thing on Vitamin E" and then something will come along that's the definitive counter to that.

A: That's right, and in that first pass, it looks like scientists either aren't very good at what they do or they're very wishy-washy, and either way you can't trust them. That's because the uncertainty underlying those discoveries is not being accurately portrayed. There's no simple solution for that. I think both reporters and scientists just have to keep trying harder to communicate what that uncertainty is. You know, the public understands uncertainty. They make probabilistic decisions all the time about what's more likely to happen than something else. I think that reporters are probably underestimating the sophistication of the average reader or viewer.

Q: So uncertainty in science is a given. You're drawing conclusions that have a range of certainty and uncertainty.

A: Yes, because most important questions are about really complex things. Human health, for example, is a very complex situation. It's virtually impossible to say with certainty the connection between a particular food and health. But you can make statistical associations that it's likely

"We used to think of this unseen world as a source of dangerous things that wanted to kill us. But it's much more than that."

that this food is good for you in this way or this food is bad for you in this way. But those are probabilistic arguments—you're saying it's more likely than not that this is true. Sometimes we can say we're 80 percent sure, for instance, that there's a connection between two things, or 50 percent or 90 percent. But those sorts of arguments tend to get lost when we tell stories about science.

The same is true with a complex subject like the Earth—like trying to understand the relationship between industrialization and the increase in CO2 and the connections to climate. The chain-of-causation argument is very well established, but each of those links is a probabilistic argument—that it's more likely than not that there's a relationship between industrialization and the increase in CO2 in the atmosphere.

We make those "more likely than not" decisions all the time. That's the way the world works. Like when we merge into traffic. Will we do better if we change lanes now than if we don't? If there were more links like this to people's everyday experience around probability I think we would do a better job of communicating science. In our education system, we don't do a good job of teaching about probability early on. Kids grow up with stories that are very deterministic: you do something and you're 100 percent certain what the outcome is going to be.



Q: What are the special challenges in communicating your particular field of science?

A: I study microorganisms, which are forms of life that we can't see with the naked eye. In some ways, they are very different from the organisms we experience in our day-to-day lives, like plants and animals. We can't see them and they're weird, which means I have extraordinary challenges as I try to communicate about what I study. I remember one time when my son was very small, he was playing with one of his friends and I overheard them talking. His friend was telling him what his father did, and he asked my son what his father did for a living. And my son said, "Oh, my dad studies invisible things." So I study invisible things.

Part of the challenge, then, is to make the invisible visible. And I do this in many different ways—I use metaphors; I have a whole bevy of plush microbes [gestures to a shelf filled with stuffed creatures] that I use to get people to relate to these tiny forms of life. I also talk about the consequences of all this unseen life—consequences that we also can't see.

It's challenging, too, because we used to think of this unseen world as a source of

CONTINUED ON NEXT PAGE

dangerous things that wanted to kill us. But it's much more than that. It's also a much larger source of things that are good for us. Also, they're unavoidable—we can't get rid of them no matter how much we clean our kitchen or how many antibiotics we take. So another part of the challenge of communicating my science is representing this real and significant shift in our perspective about this tiny world.

Q: Tell us about how this tiny world relates to the study of climate change.

A: One important way is the chemical composition of the atmosphere. Much of this is under the control of activities of these little tiny forms of life. One of the most potent greenhouse gases is methane, and methane comes from many sources, but ultimately the vast majority of methane is created by one group of tiny organisms called methanogens, or methane makers. We know very little about their biology, actually—they're in a whole branch of life that we didn't even know existed until thirty years ago or so.

Understanding the biology of these methanogens—what determines which ones live where, what determines when they make lots of methane and when they don't—is really important. One thing that we're studying-myself, Scott Bridgham (another UO biologist) and Qusheng Jin (a professor of geology here at the UO) is what controls how much methane these little creatures make and whether there's a relationship with temperature. As the world warms, if they produce more methane as soils warm, then methane builds up in the atmosphere, which in turn causes more warming, and so you can have what we call positive feedback.

We've been studying this in particular soils from places called peatlands, which are basically giant compost piles of decomposing plant materials that can be tens of meters deep, with lots of carbon that's just waiting to be released as methane, which could really change our climate.

Q: So understanding the microorganisms will potentially help decrease the amount of methane?

A: Yes, learning more about methanogen biology will help us make better predictions about the outcomes of our activities. There are certain things that we have control over as humans that can reduce the amount of methane that these microbes make. Much of my work now is really about trying to understand how we as humans interact with this invisible world.

Another reason why microbes are important is because many of the solutions people have suggested technological solutions for global change—hinge on microbial processes or microbes directly. People have suggested that we could scrub the atmosphere of CO2 by fixing it—which means sucking CO2 out of the atmosphere and turning it into something else. Plants do this all the time: suck up CO2 and turn it into new plant material. But they don't do that fast enough to make a big difference on the atmospheric levels of CO2, so people have suggested we could farm microbes that do the same thing in large systems. However, it's not clear yet if that's feasible.

Also, people are talking about using biofuels—biological alternatives to fossil fuels that reduce our impact on the CO₂ levels in the atmosphere—with the most commercially feasible biofuels based on microbial physiology. This would involve growing algae in large quantities, for instance, and then turning that into fuel of various forms.

Besides studying methanogens, I'm also involved in a big project in the Amazon Rainforest where we're trying to understand what happens when you turn a forest into a farm. We can see what it does to the plants, but what does it do to all the things below ground that are intimately involved in the Amazon's role in exchanging gases with the atmosphere?

"It's kind of like bird watching except we're looking for certain gene sequences rather than certain colors of birds."

Q: And how do you go about doing that? What's the process of determining the impact?

A: The challenge is that we can't take sample soil and look at it under a microscope and count the different kinds of microbes, because it's impossible to tell them apart when looking at them in that way. So we instead look at their genes as sort of footprints to infer the presence of certain types of microbes. We'll take a sample of soil, break up all the biological material in it and then distill out the genetic material from everything in the sample—microbes, plant roots, whatever else is present—then use tricks from biochemistry to look for the presence of certain sequences of DNA that are indicative of the presence of certain kinds of microbes.

It's kind of like bird watching except we're looking for certain gene sequences rather than certain colors of birds. But we end up with a list sort of like a bird watcher would have of all the types of microbes present in a given place. Then we can compare those lists from place to place.

From our list of microbes present in soil, we can ask: what do you lose when you convert a forest to a farm? Or we can ask the opposite question: what is promoted in a farm that you don't find in a forest? And then we can ask: what are the likely consequences of these changes?

Q: What effect has your communication training had on your work as a scientist?

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SILEN(E)

WOMEN AND THE BROADCAST BLACKLIST







By Patricia Hickson and Lisa Raleigh

he McCarthy era is remembered for the injustice of the Hollywood blacklist, the livelihoods it ruined and the shameful public spectacle of alleged Communists being forced to name names or face the alternative: endanger their careers by refusing to cooperate with the House Committee on Un-American Activities.

Directors, screenwriters, actors, musicians and other artists suffered under the frenzy of red-baiting that characterized the beginning of the Cold War era—some of them well known (Charlie Chaplin, Leonard Bernstein, Lillian Hellman), but many of them lesser known, and fated to remain obscure because the blacklist destroyed their careers.

In her forthcoming book, *Black and White and Red All Over: Women Writers and the Television Blacklist*, UO professor Carol Stabile looks at some of the artists whose

contributions to broadcasting were all but obliterated during the McCarthy era.

Stabile, a professor of English and journalism and director of the Center for the Study of Women in Society, focuses especially on the women of the blacklist and the circumstances that made women particularly vulnerable as targets. While all the women targeted allegedly posed a danger to national security because of their Communist Party affiliations, Stabile offers evidence that the real threat they posed was their proclivity for expressing progressive viewpoints.

Additionally, Stabile theorizes that women in television may have been accused of communist sympathies simply because of their gender. In an era when it was rare for a woman to have her own job, those who had successful careers defied the idealized postwar image of women as unambitious homemakers. Doubly suspect were women who were black or Jewish, as their success represented a challenge to racial and ethnic stereotypes as well.

In short, says Stabile, the red scare reached far beyond its purported aim of exposing individuals who might betray our national interests to controlling and silencing those who represented subversion of a different kind: a threat to the gender and racial status quo.

Stabile believes that, had these women been allowed to continue in their careers, their work would have promoted a more inclusive perspective on family and gender than that typified by the era's most successful television programming.

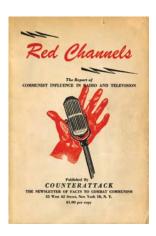
These were women, writes Stabile, who were "telling stories that could not have been more different than the stories that would be told about the American family on TV."

Black and White and Red All Over is the culmination of more than ten years of research into the lives and work of several women whose voices were suppressed by McCarthy-era injustices.

Above, left to right: Hazel Scott, Jean Muir, Shirley Graham DuBois Stabile's chief concern are those named in a book called *Red Channels*, perhaps the most infamous piece of anticommunist propaganda of that era.

Published in June 1950 by a right-wing organization called the American Business Consultants, the book quickly became known as the "bible of the blacklist" and was distributed for free to broadcast advertisers, sponsors and network executives. It contained the names of 151 individuals in the media industry—including forty-one women—and a list of activities affiliating them with procommunist attitudes.

The first career casualties resulting from the publication of *Red Channels* were both women and both performers, but they each drew the attention of the anticommunist accusers for very different reasons.



The women named in Red Channels are listed in red above and on the previous page. Some were able to have successful careers after the blacklist, but many were not.

The Performers: Jean Muir and Hazel Scott

Jean Muir

Jean Muir was the kind of willowy blond conspicuous in Hollywood films of the 1930s and '40s. Though not often a leading lady, she had steady work and played opposite some



of the industry's most famous men in more than twenty films.

But Muir's personal life represented a major departure from the typecast ingénue she played in the movies. An outspoken advocate of civil rights, she made contributions to the movement that were recognized by the National Association for the Advancement of Colored People (NAACP). Muir was invited by the NAACP to serve as a guest panelist and key speaker at a number of events and protests throughout the 1940s. On one occasion she even shared the stage with First Lady Eleanor Roosevelt.

In 1950 Muir, then thirty-nine and living with her husband and children in New York City, was offered the role of Henry Aldrich's mother, Alice, on The Aldrich Family, a popular radio program adapted for television. It was a big break. Television was a growing phenomenon and a sitcom role was coveted.

But just months after being cast, *Red Channels* was published. Muir's name was among those listed, and she was fated to become the industry's first casualty when NBC abruptly cancelled the season's first live taping of the sitcom, issuing a statement announcing Muir had been fired because she was a "controversial personality whose presence on the show might adversely affect the sale of the advertiser's product."

It was a turning point in Muir's

life. She was never again able to gain significant roles on the screen and struggled with alcoholism and depression for decades.

Hazel Scott

In contrast to Muir, Hazel Scott, a successful African-American actress, represented an affront to the status quo both on and off screen. Scott had landed significant roles in several Hollywood



productions in the 1940s and was also a talented jazz musician and stage performer.

Early in the summer of 1950 Scott's variety program, The Hazel Scott Show, debuted on television, making her the first African American to star on television. The program was centered around fifteen minutes of music, most often performed by Scott herself. Though well reviewed, the network cancelled the broadcast in September of that year. Hazel Scott had been listed in *Red Channels*.

Incensed, Scott went voluntarily before the House Committee on Un-American Activities, but instead of providing a confessional testimony, she took the offensive and challenged the strategies and integrity of the blacklist movement. Her accusations won Scott no employment favors and she soon left the country, traveling through Europe as a jazz musician and singer. She would not appear again on television until the late 1960s.

BY AUTHORITY OF THE HOUSE COMMITTEE ON UN-AMERICAN ACTIVITIES

The Writers: Vera Caspary and Shirley Graham DuBois

Writers, while not as visible to the general public as performers, received special scrutiny during the anticommunist witch-hunt. Those who made the blacklist allegedly had radical agendas; their purported intent was to subvert American values through scripts that would encourage widespread communist sympathies. But Stabile's thesis is that they were agitators of a very different kind.

Vera Caspary

Vera Caspary
was a Jewish
American, known
for her independent
and opinionated
spirit, possibly
expressed best by her
unwillingness to have
her often avant-garde



screenplays—which tended to feature smart, emancipated female protagonists—altered for Hollywood. "She was always getting into epic battles with producers," said Stabile.

Nonetheless, Caspary supported herself and her widowed mother throughout the 1930s and '40s on the strength of her writing alone, at a time when few women had careers. Prior to the blacklist she made a name for herself as an accomplished novelist and screenplay writer. Her most famous work was her novel and later screenplay for *Laura* (1944), now a film noir classic, sometimes referred to as the first psychothriller.

When *Red Channels* was released and Caspary found herself on the list, she had a legitimate reason to worry as she had been affiliated with the Communist Party

in the 1930s. But even though decades had passed, she felt compelled to flee to Europe to escape interrogation that would have pressured her to turn in the names of her colleagues. Although she continued to write screenplays and novels, nothing she submitted for television was ever produced.

Shirley Graham Dubois

Shirley Graham DuBois was an activist writer. Born in 1896, she was an African-American novelist, producer, musician and intellectual who agitated for civil



rights throughout her life. Merging both art and politics, DuBois was a prolific author who published many screenplays and books, including several juvenile biographies about the lives of famous African Americans, subject matter she believed should be more widely available in schools.

DuBois's professional posts included an appointment as field secretary for the NAACP in the early 1940s, during which time she set up field offices for the group throughout the country. In 1948, she gave the keynote address to a crowd of more than 10,000 people at the Progressive Party's 1948 convention for Henry Wallace, the party's candidate for president.

In 1951, she married writer and activist W.E.B. DuBois (a pioneering civil rights activist). Despite the couple's power and prestige, they could not escape the accusations that their progressive views were a threat to America and should be discredited. In 1961, they became permanent citizens of Ghana, where Shirley Dubois assisted with the creation of the nation's first television network.

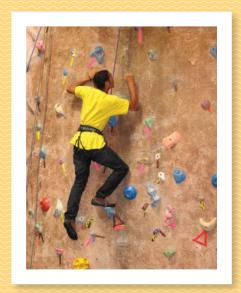
At least one creative casualty of DuBois's status as a blacklistee was a project to document the life of Anne Newport Royall (1769–1854), sometimes called the first professional female journalist in the U.S. Dubois had applied for a Guggenheim grant for this project, but was never able to see it through. In addition, says Stabile, the blacklist guaranteed that none of DuBois's previous works would ever be adapted for television or the movies.

Along with Muir, Scott, Caspary and DuBois, *Black and White and Red All Over* also includes in-depth chapters on Gertrude Berg, Joan LaCour Scott, Ruth Gordon and Lena Horne.

Citing Shirley Graham Dubois's observation that many of these women have been "wiped out of history," Stabile says her motivation has been to "restore the accounts of a generation of politically active professional women to broadcast history."



Blacklisted in 1950, Hazel Scott would not appear again on television for nearly twenty years.



Six years ago, two UO economists launched a summer camp for low-income teens to help them get on track for college. Now seven of those summer students are attending the UO.



what They Did on Their SUMMER SUMMER

By Lisa Raleigh

"You don't feel you're good enough to go to college, until you see people make an investment in you."

-Katie Castro, UO sophomore

t began with a UO professor casually entering an eighth-grade math classroom and inviting the students to engage in a game. Believe it or not, he told them, the game would introduce them to some of the principles of economics.

There was some fidgeting, some of the exaggerated eye-rolling that thirteen-year-olds don't make much effort to conceal. But the professor seemed like a friendly guy, like maybe your favorite uncle, dressed in jeans and sneakers (is this what an economist looks like?)—okay, whatever. Why not? At the very least, it was a break from the usual routine.

The professor had brought along decks of playing cards and rolls of quarters. As he distributed the cards and coins, he explained the goal of the game: to make trades—based on the face value of the card—that would get you the

most quarters. Within ten minutes, the students were waving their cards in the air, shouting at each other, wheeling and dealing in a frenzy of competitive spirit. The professor explained that this is just what traders do on the floor of the New York Stock Exchange. The students weren't entirely sure what that meant, but he had their attention.

The Natural Thing to Do

In fact, professor Bill Harbaugh was on a recruitment mission. He and fellow UO economist Bruce Blonigen had selected this school—Springfield Middle School—for a pilot project. Their idea was to launch a free one-week summer camp for bright students from low-income families who, despite their smarts, were unlikely to enter high school thinking of college—not just because of economic pressures, but because a variety of personal circumstances also conspired to make college seem out of reach.

Their program, called SAIL (Summer Academy to Inspire Learning), was—and is—designed to create a hands-on experience of what college life is like, with sessions conducted in real classrooms on the UO campus, with real UO professors, all of whom volunteer their time. The

aim is to dispel negative preconceptions about college (scary, elite, inaccessible, unattainable), have some fun (even while learning about economics) and convey practical information on the basics of making college a reality (which college prep classes to take, how to apply for financial aid and scholarships).

The camp, originally funded by James and Shirley Rippey and now also supported by additional donors, has evolved into a summer phenomenon, serving more than 100 students each year, across all four years of high school, exposing them to a range of college subjects.

"We wanted to know—can we make an impact with just one week in the summer?" Blonigen recalled. He and Harbaugh both believed in "the power of students just getting used to campus, of envisioning themselves here, so that the natural thing to do when they're done with their fourth SAIL camp is to go to college."

Harbaugh's first visit to an eighth-grade class took place six years ago, bringing nineteen students into the first cohort, twelve of whom then came back to SAIL for three more years. His second visit a year later brought in a new group that ultimately settled into a cohort of nineteen that went on to complete the four-year series of camps.

Fast forward to 2012, and two-thirds of the students in these first two SAIL groups are now in college. Seven of them are at the UO.

"These are kids," said Harbaugh, "who by and large would not have gone to college."

'No Way Am I Going to Be Able to Do That'

Eighth-grade students are prime candidates for this kind of intervention, says Blonigen, because they will soon have critical decisions to make about college prep courses. Without guidance, he said, "they don't know the implications of the choices they make in high school."

But it's not just about making good choices. It's about realizing you're entitled to make those choices in the first place. The students who attend the SAIL



recruiting sessions are handpicked by their math teachers; they all show a spark of promise, maybe not the best grades, but clearly the capacity for achievement. Yet they all lack, to one degree or another, a support system that encourages them to pursue their academic potential.

"No way am I going to be able to do that," said Sara Eilenstine, a UO freshman and SAIL graduate, thinking back to what she thought about college in middle school. "I'm not smart enough."

Yet Eilenstine—who was getting Cs and Ds before enrolling in SAIL and went on to become an A student—is now majoring in Spanish at the UO, saving funds for a year of study abroad in Chile and making plans to go to law school.

Because she's had a chance to work with some younger SAIL students, she now sees that she was not alone in her misgivings.

"They think like I did," she said of the students she's mentored as a "camp counselor" during the most recent summer session. "College is not going to be possible."

Distractions, Even Dangers

There are many reasons SAIL students have this mindset. For starters, Springfield Middle School feeds into Springfield High School, where the graduation rate does not inspire: only 58 percent of students graduate in four years. Only 17 percent go on to a four-year college. In other words, the vast majority in any given class will not be on a path toward college, perhaps far from it.

At home, there's often a similar disconnect: in many cases, no one in the family has ever gone to college; sometimes one or both parents have not finished high school. And then there's the cost of higher education. Springfield Middle School was selected because 75 percent of the students qualify for free lunches, a reliable indicator of limited family resources.

"Money is definitely one thing that really kept me from thinking about college," said Katie Castro, a sophomore who was in the very first SAIL cohort. She was able to put together a suite of scholarships and loans that made it possible for her to enroll at the UO, yet still had to work fifteen to twenty hours per week at the Holiday Inn during her first year in order to make ends meet—even though she was living at home and did not have housing expenses.



Perhaps the biggest obstacle, though, is trouble at home. The middle-school math teachers have some sense of their students' home lives, and in many cases that's why particular students are selected—because an array of family distractions, even dangers, contribute to their underperformance and lack of confidence in their future.

But the depth of the dysfunction is sometimes not revealed until later, as Blonigen, Harbaugh and SAIL coordinator Lara Fernandez get to know the students and gain their trust. Over the four years of the program, the details can and do emerge: parents or siblings abusing alcohol, dealing meth, carrying weapons, suffering from mental illness, going to prison or inflicting physical violence or sexual abuse on each other. In one case, a student was couch-surfing, moving from home to home every two weeks or so, because he had nowhere else to sleep.

"The SAIL program can be a safe haven where students connect with wonderful, caring adults who are excited to help students grow," said Fernandez. "Our students tell us, after spending summers with us, they feel campus is a welcoming place to be."

The SAIL Seven

In 2010, the first SAIL graduate, Katie Castro, enrolled at the UO. She was followed in 2011 by six more students, including her brother.

ANTHONY CASTRO

Mathematics and economics

KATIE CASTRO

Pre-education

SARA EILENSTINE

Spanish, pre-law

NOELLE JONES

History

KEKOA RODBY

Computer science

PHEBE UDO

Sociology

ASHLEY ZINKGRAF

Pre-nursing





The Cultural Divide

Completing the SAIL program and enrolling at the UO doesn't mean, however, that family challenges go away. That's because most former SAIL students continue to live at home while they attend the university, unable to afford on-campus housing. But whether their family situation is tumultuous or not, living at home can at the very least be an impediment to fully integrating into the college experience.

"Culturally, it can be hard for them to fit," said Harbaugh, who hopes that SAIL funding will one day extend to supporting residence-hall expenses.

Yet there can be an unexpected upside to encountering the cultural divide.

Sara Eilenstine, the aspiring law student, is living at home with her recently divorced mother (who is also working toward her bachelor's degree via an online university), but even though she doesn't live in the residence halls, Eilenstine has found ways to build meaningful on-campus connections through study groups—which she has found to be a revelation.

"It's such a cultural shock," she said, contrasting her study-group experience with the lack of peer support in high school. "People are actually there to help each other. Everyone is so nice. We're all here for the same reason."

Katie Castro's younger brother Anthony, also a SAIL graduate and now a UO student, has a different kind of



Top: All of these SAIL students (class of 2011) have gone on to college. Left to right: Phebe Udo, Kekoa Rodby, Sara Eilenstine, Steven Earley and Anthony Castro. Earley is enrolled at Oregon State University; the others are in their first year at the UO. Several more SAIL students are expected to enroll at the UO this fall.

Above: Anthony Castro, his sister Katie and Noelle Jones.

support system: the Oregon Marching Band.

In his first term at the UO last fall, Anthony, a snare drummer, accompanied the football team to all of its games, plus the Rose Bowl in January. But while this gave him a ready-made social connection, it also meant he put in sixteen to eighteen hours per week in practice time, in addition to the travel time for games—all piled on top of a nearly superhuman self-imposed course of study in mathematics and economics.

Turbo Charge

Castro hopes to finish his degree in two or three years. Technically, he entered the UO as a junior, thanks to the many advanced classes he completed in high school, and he's now on a fast track to complete all his major requirements in his first year. During winter term, he was taking 21 credits—four math courses and an economics class.

The economics class had 160 students, by far the largest class he had ever attended. (Classes for math majors typically have twenty to thirty students.) This was perhaps one of the biggest

adjustments to campus culture—entering a class full of students he didn't know, after years of knowing nearly everyone in every class. So how did he adapt?

"I sat in the front row," he said. Well, of course.

In truth, Anthony Castro is the kind of student with the drive, ambition and raw aptitude who probably would have gone to college, no matter what. Indeed, he already had college in his sights when Bill Harbaugh visited that middle school math class. "I always thought I would stay in school as long as possible," he recalled, and true to that impulse, he is already

looking beyond his undergraduate studies to a possible PhD in math.

For Anthony, then, SAIL was a kind of turbo charge. "It was a way to get the best out of myself," he said. In general, "it's a lot about finding out what you want to do."

For his sister Katie, however, it was a window into a world she had scarcely dared to imagine.

The Castro siblings are a year apart; both commute to campus from Springfield, where they live with their parents and their younger sister Shanna, who last summer completed her first year

Science Week: Physics and Human Physiology

Here's a sample of the range, sophistication and flat-out fun of just one of the several tracks offered during the one-week SAIL camp. Below is last summer's physics and human physiology program for students entering their junior year. Led by faculty members Raghu Parthasarathy (physics) and Andy Karduna (human physiology), the week also features several other professors providing demonstrations in their area of expertise, plus one-of-a-kind segments, like a visit to the cadaver lab and the physics and physiology of rock-climbing.

MONDAY

10:00-10:20 a.m.

Introduction to physics and human physiology Associate Professors Raghu Parthasarathy and Andy Karduna

10:20-11:45 a.m.

Oil drops, soap bubbles and cells-what do they have in common? Associate Professor Raghu Parthasarathy

11:50 a.m.-12:50 p.m.

Lunch

1:00-3:00 p.m.

Rope course activity

TUESDAY

10:00-10:50 a.m.

Physics and falling Assistant Professor Eric Corwin

11:00 a.m.-noon

Human physiology: Gait analysis Associate Professor Li-Shan Chou

Noon-1:00 p.m.

unch

1:00-2:15 p.m.

Student research at the UO. Explore research going on at the UO with undergraduates and graduate students

2:15-3:00 p.m.

Demo show: Energy and waves Ben Wright, student (Plus a short talk by Raghu Parthasarathy)

WEDNESDAY

10:00-10:50 a.m.

Campus tour Lara Fernandez, SAIL coordinator

11:00 a.m.-noon

Physics and climbing: pulleys GTFs Mick Davis and Mike Taormina

Noon-1:00 p.m.

Lunch

1:00-2:30 p.m.

Physics and climbing: Climbing the rock wall at the UO gym GTFs Mick Davis, Matt Jemielita, Mike Taormina

2:30-3:00 p.m.

Physiology and climbing: Muscle activity Associate Professor Andy Karduna

THURSDAY

10:00-11:00 a.m.

Anatomy labs: Cadavers

11:00 a.m.-noon

Human physiology: Respiratory lab Assistant Professor Andy Lovering

Noon-1:00 p.m.

Lunch

1:00-1:50 p.m.

Microscopy Associate Professor Raghu Parthasarathy

2:00-3:00 p.m.

Human physiology: Shoulder biomechanics Associate Professor Andy Karduna

FRIDAY

10:00 a.m.-noon

Undergraduate physiology lab

Noon-1:00 p.m.

Lunch

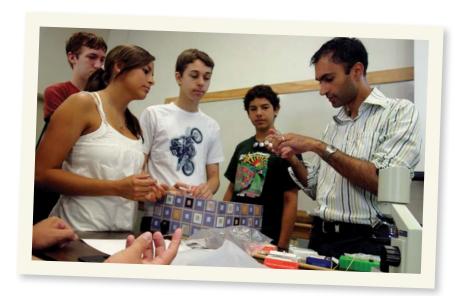
1:00-2:00 p.m.

Evaluations, T-shirts

2:00-3:00 p.m.

Admissions and financial aid information





of SAIL. Katie and Anthony were actually in the same advanced eighth-grade math class in Springfield Middle School when they heard the original SAIL pitch, even though Anthony was in seventh grade.

'Really Nervous'

Katie didn't want to participate in the SAIL program that first summer, preferring to spend her time at cheerleading camp and softball practice. But her parents insisted that she go. And so she went, reluctantly.

She was "really nervous," she recalled. She had never been on the UO campus. There would be "real professors," and that seemed intimidating. But her trepidations soon unraveled as she began to have fun.

SAIL doesn't take place just in the classroom; it's a full campus experience, which Katie recounts in great detail six years after the fact. In addition to the core economics class, where she learned about banking via role-playing, she and her SAIL peers visited the Jordan Schnitzer Museum of Art (she had never been to an art museum). They toured the Pioneer Cemetery, gathering dates and names from the headstones to ponder what the data suggested about lifespans. They ate in a residence hall cafeteria, explored Knight Library, roamed the EMU. They heard a panel of professionals talk about what they studied that set them on their career paths, and "they told us how many times they switched their majors," she recalled. This was an eye-opener: the fact that you could come to college and change your mind about the direction you might be headed.

When the time came to return the following year, she signed up without hesitation; this is where she wanted to be.

For second-year students, a new course was added: psychology. Katie and her cohort went to the neuroscience lab, put brainwave caps on their heads and headphones over their ears. In one ear, they heard music; in the other a story. Their challenge: to see how much they could retain of the story. Katie had no trouble tuning the music out to listen to the words (a useful skill for a college student, she says, when studying in the din of the EMU).

When she came back for a third year, physics had been added: an introduction to the principle of surface tension, i.e., the forces at work at the surface of, say, a soap bubble or drop of oil. To investigate this phenomenon, students peered through microscopes at everyday items, like mayonnaise, to discover an unseen world of constantly shifting molecules that group and regroup according to the laws of physics.

This was not the only hidden domain they got to discover. "This was one of the rare chances that these kids get to meet and interact with scientists," said Raghu Parthasarathy, associate professor of physics, who led this original section on microscopy and now organizes a full week of science that combines both physics and human physiology—see Science Week, p. 11. As with all professors associated with SAIL, Parthasarathy volunteers his

SAIL Milestones

Since its inception in 2006, the SAIL program has expanded beyond economics to feature several academic subjects. In addition, recruitment has expanded to include all area schools, especially Bethel Middle School and Willamette High School in Eugene. At these two schools, as with Springfield Middle School and Springfield High School, a high percentage of students qualify for free or reduced-price lunches.

2006	First SAIL economics camp
2007	Psychology added for second-year students
2008	Physics added for third-year students
2009	Journalism added for fourth-year students
2010	Students recruited from Bethel Middle School and Willamette High School as well as Springfield Middle School and Springfield High School
2011	Biology added for third-year students: international studies added for

incoming first-year students

time; because he's a scientist with National Science Foundation funding, he was able to use some of his grant money to purchase the microscopes.

Nuts and Bolts

For the fourth and final year of SAIL, a journalism instructor led a creativity and storytelling camp, which invited students to explore writing as a form of self-expression—or, for those more visually oriented, scrapbooking as a mode of personal narrative. This unit also included a highly practical component: writing the college essay.

This points to another layer of SAIL that contributes to the overall package of college-readiness: instruction in the nuts-and-bolts aspects of putting together a successful college application, as well as the finer points of financial aid and scholarship-seeking strategies.

Above left: Physicist Raghu Parthasarathy (right) says that SAIL students are lively, engaged and "ask more questions than the average UO student," prompting him and his faculty colleagues to ponder: "How do we get more students like this to come to the UO?"

Below: Bill Harbaugh (left) and Bruce Blonigen (right) are hands-on during the SAIL summer week and personally stay in touch with students throughout the year.

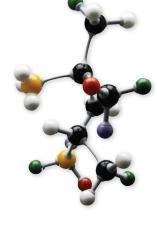
Taken together, SAIL's programmatic elements are designed to add up to a positive, affirming experience that imparts a sense of confidence and possibility. Yet, according to SAIL students, the real secret to the program's success won't be found on the week's agenda—it resides in the person of SAIL's two founders, Blonigen and Harbaugh. They not only oversee program development and provide hands-on instruction during the summer SAIL week, but they also personally stay in touch with students throughout the year, taking them to lunch and advising them one-on-one.

"They create a real sense of belonging," said Katie Castro.

What If?

To what extent is SAIL a success? The fact that two-thirds of the first two classes of SAIL graduates are now in college (in addition to the seven at the UO, fourteen others are enrolled at institutions across the state: Oregon State University, George Fox University, Lane Community College and Linn Benton Community College) suggests the program has attained its goal of setting students on the college-bound track.

But Blonigen and Harbaugh, as economists, are naturally inclined to seek verifiable results and are interested, both professionally and personally, in answering the "what if" question: What



if these students had not been exposed to SAIL? Would they have made their way to college anyway?

The standard approach to answering such questions would be to use a control group of similar students who were not part of SAIL. In fact, this opportunity has now presented itself—though not in a way that Blonigen and Harbaugh consider ideal.

As of 2011, SAIL now draws twice as many applicants as the program can accommodate, which is both good news and bad. Good, because there will now be an equal number of comparable students who both attend and don't attend SAIL, and the progress of the two groups can be monitored on simultaneous tracks. But also not so good, because Blonigen and Harbaugh would rather not turn any students away.

As it stands, they now choose from the applicant pool by randomly picking the following year's SAIL participants, thereby creating a randomly selected control group. It will take four years for these two groups to finish high school and go on to college—or not.

No matter the result of their analysis, though, the desired impact remains the same.

"I hope we've taught our SAIL students that they can go on to a life of learning," said Harbaugh, acknowledging that lifelong learning goes both ways.

"The volunteer faculty members keep telling me they're always learning something from these students," he said.

And his own net gain? "This program is not part of my job description, but it's one of the most rewarding parts of my job."



Humanities

The Serious Business of Comics and Cartoons

Good news for students and scholars who take their comics seriously: Ben Saunders, associate professor of English, has championed the launch of a new minor in comic and cartoon studies.

Believed to be the first of its kind, the minor will create a structure for the exploration of comics, cartoons, graphic novels and more through a literary lens.

Superheroes, in particular, are Saunders' special interest. Two years ago, he curated an exhibit at the Jordan Schnitzer Museum of Art called *Faster Than a Speeding Bullet: The Art of the Superhero* and organized a

companion conference.

His latest book, *Do The Gods* Wear Capes?: Spirituality, Fantasy, and Superheroes, further reveals his secret identity as a defender of the superhero's place in the realm of scholarly inquiry.

In the U.S., comics have evolved as a visual form of cultural expression over the last several decades—beginning with the rise of the comic book in the 1930s, then the "underground" comics revolution in the 1960s, and on to the success of the graphic novel in the 1980s and beyond—with themes and heroes ranging from Spider-Man, to countercultural icons



Sagas and Legends and All Things Medieval

Gantt Gurley was surprised when his informal Old Norse reading group drew fifteen students. After all, learning Old Norse isn't exactly a practical pursuit, given that it hasn't been spoken since 1500.

In fact, the reading group's popularity inspired the Department of German and Scandinavian to turn it into a for-credit course last year.

This has been just one of the unexpected developments for Gurley, assistant professor of Scandinavian and Old Norse literature, during his first two years on campus.

Another example: students associated with the Society for Creative Anachronism— a national organization that celebrates the arts and skills of preseventeenth-century Europe—tracked Gurley down for advice about the proper method for holding Anglo-Saxon swords.

And his sophomore-level Icelandic saga classes have routinely filled to their eighty-person capacity.

"There is a hunger on this campus for things medieval and Germanic," he said. A dedicated enthusiast when it comes

One of Gantt Gurley's current interests is the legend of the Wandering Jew, depicted here in a painting by Jewish modernist Marc Chagall.

to legend and lore, Gurley pursues interests that span subjects ranging from ancient and medieval song culture to the birth of the novel, Viking mythology, Germanic fairytales and Hans Christian Andersen.

Most recently he's been tracking the

influence of Judaism on medieval folklore and popular European literature of the 1800s. His current research chronicles the sudden appearance of Rabbinic tales in eighteenth- and nineteenth-century literature of Northern Europe.

Gurley credits the reemergence of such tales to a "somewhat Protestant fascination" with Jewish lore, including the legend of the Wandering Jew and the figure of the Golem, a mythical man made from clay or wood.

The legend of the Wandering Jew relates the story of a Jew who taunted Jesus on his way to the crucifixion and was then cursed to walk the Earth until the Second Coming. Last winter Gurley taught a course tracing the history of the legend from its origins in the gospels to thirteenth-century Europe and then to its eventual incorporation into works by some of the most famous artists of the 1800s including Friedrich Schiller, William Wordsworth, Hans Christian Andersen and Mark Twain.

Gurley's unusual academic background perfectly situates him to trace the roots of Hebraic lore from its pre-Christian such as R. Crumb's Mr. Natural, to Art Spiegelman's Pulitzer Prize—winning *Maus*. American comics have also made the transition to digital; there are currently more than 38,000 webcomics online.

Comics also constitute a global art form, with different cultures emphasizing a variety of themes. In Japan, for example, manga (as comics are known) can be found on every subject—sports, sex, history, business and even cooking, as well as the more familiar genres of actionadventure, crime, science fiction and horror—and are consumed by readers of all ages.

The core course for the comic and cartoon studies minor, Introduction to Comics Studies, will be offered for the first time next fall. —LR

Left: Ben Saunders, champion of the superhero's scholarly status.

birth into popular fable and literary expressions.

He studied ancient Greek, Sanskrit and pre–Islamic Caspian Sea dialects as an undergraduate and graduate student before a friend encouraged him to take a course in medieval languages of Europe—at which point he switched from pursuit of an MA in Iranistics to a master's degree in Medieval Icelandic. That degree led him to his PhD in Danish. Before joining the faculty at the UO he was a Harry Starr Fellow in Judaica at the Center for Jewish Studies at Harvard University. Today his curriculum vitae lists sixteen languages, enough to be divided into three categories: ancient, medieval and modern.

Gurley's course offerings reflect his passion and appreciation for the romance and poetry of northern European mythology in its entirety. Recent course titles include Twilight of the Icelandic Family Saga, The Hero and the Monster in Medieval Literature, Fairy Tales of Hans Christian Andersen and Modernity and the Janus of Subjectivity: From Kierkegaard to *The Girl with the Dragon Tattoo*.

And of course, Old Norse—offered again this spring. —PH

K-Pop, J-Pop Offer Plenty to Ponder



Korean pop culture or "K-pop" is fresh, colorful, ambitious and currently the most widely consumed of East Asian media—a phenomenon known as the "Korean Wave." From Thailand to Japan to China, K-pop is what's cool on TV, in music and in movies.

K-pop is also ripe for analysis as literature—a term that now encompasses traditional print as well as new-media expressions of culture.

At the UO, **Dong Hoon Kim** is the resident K-pop expert. A new assistant professor in the Department of East Asian Languages and Literatures, he studies the popularization of Korean culture throughout Asia and beyond and considers how Korean media phenomena, such as soap operas and cinema, have contributed to Korea's own concept of its modern identity.

One of two Korean scholars who joined EALL this academic year (thanks to a U.S. Department of Education Title VI grant), Dong Hoon Kim is also developing curriculum for a proposed major in Korean studies.

Beyond Korea and K-pop, a diverse array of East Asian popular media has been flooding the global marketplace in recent decades. Expression takes many forms: in addition to books, television and movies, the Asian mass-culture phenomenon includes manga, anime, cell-phone novels (with chapters of less than 100 words), video games (from Mario Brothers to Mortal Kombat to the Wii suite) and even toys that have gone digital. Hello Kitty, for instance, is now enjoying a resurgence as an iPhone app.

For EALL faculty members, the Asian popular culture wave offers plenty to ponder: transnational economics, cultural identity, regionalism, gender roles and communication. Here are some of their scholarly interests:

Alisa Freedman, Japanese Literature and Film: Freedman draws on traditional forms of literature as well as visual media to explore trends in Japanese politics, society and economics. Much of her work focuses on the role of women in the Japanese workforce and the ways media shapes career identities, workplace fashion and the jobs of working women. Three of the courses she teaches—J-Pop: Japanese Popular Culture in the World, Youth in Japanese Culture and Digital Age Stories—invite students to examine the impact of Japan's modernization on the country's cultural landscape.

Steven Brown, Japanese Film and Popular Culture: The pop culture paraphernalia cluttering Brown's office—comic magazines (manga) and posters of Japanese contemporary films—reflect his research interest in Japanese animation. His classes, Tokyo Cyberpunk and Japanese Horror, dig deep into philosophical questions via anime. Like science fiction, anime allows an intellectual exploration of ethically fraught scenarios such as a postapocalyptic world. In particular, the genre of Tokyo cyberpunk explores the concept of the city as an abstract organism and blurs the boundaries between people and machines.

Alison Groppe, Chinese Literature and Film: Groppe studies Malaysian Chinese literature and its relationship to Chinese literatures produced in mainland China, Taiwan and Hong Kong. Most recently, she has been exploring the circulation of popular culture between Shanghai, Hong Kong, Taipei, Kuala Lumpur and Singapore, and how this has allowed ethnic Chinese populations in cities across the globe to connect with each other. A special interest: nostalgia for Chinese popular music, film and literature of the 1930s through the 1970s, as evidenced in contemporary stories and films in Malaysia and Taiwan.

"We're really teaching culture," says Maram Epstein, associate professor of Chinese and the EALL department head. "Literature, film and popular media are just different expressions of it." —PH

A Graduate Student Asks: What if Someone Had Been Kinder?



Caroline Lundquist comes across as someone who should write about kindness. Her personality is warm, her cheeks are rosy and she smiles while confirming that kindness is exactly what she studies.

A philosophy doctoral degree candidate at the UO, she was recently honored with a prestigious Newcombe Fellowship and awarded \$25,000 for a full year of research support on the subject of her dissertation: the moral significance of kindness.

Lundquist traces this interest to her freshman year of college when back surgery left her unable to attend classes. Professors delivered a pile of books to her bedside. Among them: Aristotle's *Nicomachean Ethics*, Immanuel Kant's *Critique of Practical Reason* and John Stuart Mill's *Utilitarianism*.

These writers led to her first deep consideration of ethics and behavior. "I was immediately attracted to the questions



In Nietzche's view, kindness belongs to what he termed "slave morality."

about the foundations of our value system—if and why humans act selflessly, and the importance and meaning of friendship in our lives," she recalled.

But it wasn't until the day she

received her master's degree in philosophy several years later that she began to think about the profound human impact of kindness—or lack of it. Only hours after her graduation ceremony she was shaken to receive news of her cousin's suicide.

"He was one of those kids that was picked on a lot. I just thought, what if someone had been kinder to him? What if someone had treated him better? What difference can that make in people's lives?"

These questions led Lundquist on the road toward a theoretical exploration of what it means to be kind and the relationship between kindness and a moral life.

In her dissertation, she argues that kindness is one of the defining characteristics of being human.

"The decision to be kind, when we could do otherwise, when we could say or do a hurtful thing, is the most valuable

The Personal, Political and Philosophical

Alejandro Vallega was only ten when his family fled their home in Santiago, Chile, to Argentina. One night a family friend knocked on their door and alerted his father, a left-leaning scientist, that the Pinochet regime considered him a threat. Only a few years later his family fled again, this time from Argentina to the U.S. to escape the Dirty War.

Vallega, now an assistant professor of philosophy at the UO, notes the U.S. was a key player in the internal upheavals in both these countries, both of which involved rampant human rights abuses. In the case of Chile, the regime of dictator Augusto Pinochet was notorious for abuses against "leftist" individuals who opposed his rule. Argentina's Dirty War,

initiated by a military coup, was a period of government-led violence that lasted from 1976 to 1983, resulting in the deaths of thousands of suspected dissidents.

The intersection of this complicated political history with his personal experience inspired Vallega to study the philosophy of Latin America.

This branch of philosophy emerged in the 1960s and '70s and is aligned with the concept of "liberation philosophy"—the idea that modern systems of power and knowledge limit the artistic and intellectual expressions of previously colonized countries.

While it's been centuries since the native peoples of the Americas were decimated by European colonizers and we now all participate in a supposedly homogenized global economy, Latin Americans continue to be marginalized and viewed as "other," says Vallega. A simple example: the North American stereotype of "Mexican time." Vallega points out that the phrase, implying that Mexicans are always late, judges the structure of a Mexican day within the western conception of what "on time" means.

In countless depictions of Latin American behavior, thinking and culture, Latins are continually diminished in similar ways, says Vallega. "Translation is great when you are in power. It's not so great when you are being translated."

To advance intellectual appreciation for Latin American values and expressions

HUMANITIES

expression of our freedom as conscious beings," she said. "In an act of kindness, we assume another's worth."

This position contrasts with the perspectives of some famous thinkers.

For instance, in Nietzsche's view, kindness belongs to what he termed "slave morality" (as opposed to "master morality.") "Nietzsche basically says we act kindly as a way to make ourselves feel better when we can't achieve power or choose not to," said Lundquist.

Kant, while more generous, does not conclude that kindness is our highest attribute. "He thinks our worth lies in our rational autonomy, not our interdependence," she explained.

In other ethical works, she finds the concept of kindness simply lacking in rigorous study, a gap she hopes to fill.

Lundquist plans to turn her dissertation, "The Problem of Luck and the Promise of Kindness," into two books: one, a popular volume for a public audience and the other for professional ethicists.

The Newcombe Fellowship is one of the nation's largest and most prestigious awards for PhD candidates in the humanities and social sciences addressing questions of ethical and religious values. Of the 585 applicants for the 2011 fellowship, only twenty-one received fellowships. —PH

'Tis (Not) the Winter of Our Discontent

Early one Saturday last October, twenty-five UO freshmen piled into vans and headed south to Ashland for a weekend of events. Their destination: The Oregon Shakespeare Festival and a performance of Carlyle Brown's *The African Company Presents Richard III*. Based on a real-life incident, the play tells the story of a conflict between an African-American theater company and a mainstream white theater company in the 1800s.

"This is something they can enjoy their whole life."

Afterward, the students dined on the town and spent the night at the Ashland Hostel. On Sunday, they enhanced their Ashland experience with an acting workshop.

The trip was a highlight for students enrolled in the Freshman Interest Group (FIG) led by Leah Middlebrook, associate professor of comparative literature, and Jeffrey Hurwit, professor of art history. All incoming freshmen to the UO are



Actor Charles Robinson starred in the Oregon Shakespeare Festival's 2011 production of The African Company Presents Richard III.

offered the opportunity to join a FIG—a special program that links two courses (in this case Middlebrook's Comparative Literature 101 and Hurwit's Art History 204) and provides students a chance to connect with each other and UO faculty members in a small-group setting. Middlebrook and Hurwit's course is designated as one of several "challenge" FIGs offered each year, meaning the material is more rigorous than the average FIG and students are afforded more personal time with faculty members.

"Taking this wonderful trip and having literature illuminated for you—it just shows that learning is not all hard work," said Middlebrook. "I want students to leave their first quarter at the UO feeling like 'this is what I was hoping I would get when I went to college." This was the third year Middlebrook has taken students to Ashland, a tradition she plans to continue next fall by taking students to a performance of either Shakespeare's *Henry V* or *Romeo and Juliet*.

"A lot of students, even those from Oregon, don't know about the Ashland festival. This is something they can enjoy their whole life," Middlebrook said. —PH

of thought, Vallega is conducting research and teaching courses that examine the ways in which other cultural experiences and conceptual influences (such as pre-Columbian, indigenous, Afro-Caribbean and Islamic) have contributed to ideas about life, morality and justice in Latin America. He also studies and teaches contemporary Latin-based art, literature, decolonial theory and the work of philosopher Enrique Dussel, theorist Walter Mignolo and novelist Gabriel García Márquez.

Vallega also has a personal interest in cultural expression via the visual arts, and is himself a painter. —PH

Right: Painting by Alejandro Vallega, Milonga para Mañana: a Alfredo Zitarrosa, (Tomorrow's Milonga, to Alfredo Zitarrosa). Acrylic, chalk, and India ink on canvas, 2008.



Social Sciences

Power Up!

Renewable Energy Fills a Gap in the Grid



Students from the Jnana Bodhini School celebrate the installation of solar panels that help run their computer lab. Raj Vable, a graduate student in the UO environmental studies program, led the project.

s a first-generation American, Raj Vable has always been interested in his Indian heritage. But while he appreciated his parents' tales of their home country, India felt far removed from his own experiences growing up in the U.S.

Three years ago, as a senior at the University of Michigan, Vable began to ponder more seriously his plans after school. He was majoring in electrical engineering but dreamt of a career that would be more than a nine-to-five job, and wanted to explore his family heritage. Opportunities that met both criteria seemed slim.

Now, as a second-year graduate student at the UO, Vable has forged a unique and meaningful path for himself. As part of his program in environmental studies, he has designed a project that builds on his engineering skills, his Indian heritage and his passion for social and environmental change.

With the support of family, friends, donors and the entire community of Pavagada, India, Vable has successfully led an effort to bring reliable energy and updated computers to a rural school in his mother's hometown.

Like many areas of India, Pavagada relies on electricity from an unstable power grid. Blackouts are common and impossible to anticipate; the local Jnana Bodhini School—serving just over 1,000 students ranging in age from five to sixteen—routinely loses power from the grid four or more hours every school day.

Vable's project has involved installing solar panels on the roof of the school to provide renewable and reliable power, and then connecting this new energy source to the computer lab.

Prior to Vable's efforts, the school's valuable computer lab, the only resource of its kind in the school district, sat mostly empty as the irregular outages made it futile to schedule classes.

Vable hatched the solar power idea after hearing about the situation from his sister, who had gone abroad to Pavagada to teach chemistry. Already a solar enthusiast, Vable recalls the moment when "something clicked—I realized, here was an opportunity to put solar into practice, and also work with the village where my mother had grown up."

Vable suggested the idea to an uncle who lived in Pavagada and was also associated with the school. With this family connection and the enthusiastic support of his friends, Vable put his project into action.

It took several trips to India, long delays between equipment shipments and lots of patience, but by June 2011, Vable, instructing a team of volunteers, had replaced the aging computers in the lab with twenty energy-efficient models and installed a sufficient number of donated solar panels to run the new lab.

While there is still work left to do plans to establish Internet access and launch an after-hours Internet café are in the works—the Jnana Bodhini School now has regularly scheduled computer

What Monkeys Can Tell Us That Humans Can't

UO paleontologist Stephen Frost

has an unusual skill: if handed a monkey skull from an archaeological dig, he can name the species.

It's a valuable skill because each Old World monkey fossil provides clues to the environment where the monkey lived. This is possible because many ancient monkeys, like monkeys today, were specialists. Some lived in rainforests, some in deserts and some in mountains, with each species evolving a body size, skeletal structure and teeth suited to its major food source and habitat.

This is in contrast to fossils of hominids, a lineage that includes apes and humans. Hominids,



particularly the direct predecessors of modern humans, were generalists. Though hominid species lived in many different climates, their bone structure varies much less from place to place than monkey bone structure, therefore conveying fewer clues about the ancient landscape they inhabited.



classes that rely on the solar panels for back-up power when the grid goes down.

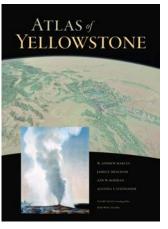
It was in the midst of this project that Vable decided to pursue a graduate degree in environmental studies at the UO.

"I realized that the technical understanding from my engineering degree was necessary for engaging in this type of development work—but far from sufficient," he said. "There were too many economic, political and social issues at play that I wanted to understand more deeply." This is the exact strength of the environmental studies program.

In addition to continuing to work with the Jnana Bodhini School, Vable is now working on another renewable energy project with an organization in the Himalayas called Avani, developing energy technologies derived from pine needles (i.e., biomass conversion) for rural mountainous communities.

"The Jnana Bodhini School project has been a chance for me to connect with my Indian identity and to make a difference in the world," Vable said. "I've been bowled over by the support that Americans have given, both financially and morally, and I've been amazed at how open to outsider input the people in Pavagada have been, how willing they were to treat me, a twenty-two-year-old kid, as an equal." —PH

First Atlas of a National Park



The UO and Yellowstone National Park are proud to announce the release of the *Atlas of Yellowstone*—a colorful and data-rich hardback volume that captures the exceptional story of the greater Yellowstone area.

More than 300 pages of maps, graphs and text describe the park and surrounding area from fifty thematic perspectives, including the region's history, geology, wildlife, rivers, geothermal and fire activity, native peoples and economy.

Ten years in the making, the reference represents the synthesis of 200 years of exploration and research and the insight and expertise of numerous geographers and scientists. It is also the first comprehensive atlas ever made of a national park.

The project was led by Department of Geography members Andrew Marcus, Jim Meacham and Alethea Steingisser in collaboration with Ann Rodman at Yellowstone National Park.

Its publication follows the phenomenal success of the *Atlas of Oregon*, released by the UO's renowned InfoGraphics Laboratory in 2001. Still in popular circulation a decade later, the internationally acclaimed *Atlas of Oregon* was described as "a tour-de-force in cartography and design" by the National Geographic Society.

Meacham, the editor of cartography for both atlases, says the *Atlas of Yellowstone* employs the same attention to reader accessibility, story-telling and communicative imagery that made the Oregon atlas a success. But more than simply a beautiful testament to America's first national park, the *Atlas of Yellowstone* was conceived as a definitive reference for tourists and scholars alike.

"It's both an academic reference volume for the entire area of Yellowstone and something for people who cherish Yellowstone to take home," said Marcus.

To learn more about the project, or to order an atlas, visit atlasofyellowstone.net. —PH

For scientists interested in human evolution, the plentiful monkey fossils often unearthed near fossils of our human ancestors provide evidence of available food sources and climatic conditions that human fossils can't.

Frost, an associate professor of anthropology, had never planned on becoming an extinct-monkey expert. Rather, his expertise is a byproduct of his research on climate change and human evolution. He was especially interested in the "turnover pulse" hypothesis, a theory that the evolution of modern humans, and many other animals, is linked to a global cooling event that began some 2.5 million years ago—around the same time the fossil record indicates the first members of our genus, *Homo (Homo habilis)*, emerged in East Africa.

Was evolution of the human species—with a larger brain, ability to use tools and a more complex social structure—forced by adaption to a changing climate? To test the hypothesis Frost turned to the fossil record. If the record indicated the disappearance and emergence of many new species of monkeys around the time of the global cooling, the findings would support the theory that this period of climate change also drove the evolution of humans.

But after examining thousands of monkey fossils over a period of ten years, Frost found that Old World monkey evolution was not accelerated and this therefore suggests that human evolution was not prompted by the global cooling conditions.

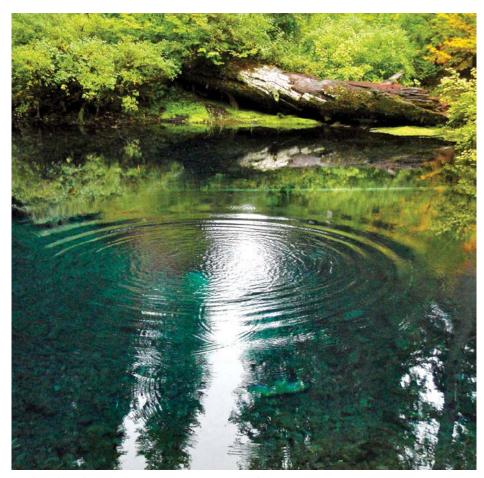
For Frost, the turnover pulse hypothesis had been put to rest. His interest in Old

World monkey fossils, however, has not.

As one of only a few paleontologists in the world with specific expertise in monkey fossils, he serves as a valuable member of the scientific team on some high-profile archaeological digs.

His most recent project: identifying monkey bones at the Gona paleoanthropological site in Afar, Ethiopia, in the same region as the dig sites that uncovered both Lucy (3.2 million-year-old hominid) and Ardi (4.4 million year-old hominid). The Gona Project has so far uncovered a 1.2 million-year-old *Homo erectus* pelvis, as well as 4.5 million-year-old hominids and the world's oldest stone tools (2.6 million years old). Frost hopes his work in Gona and other areas will assist in recreating an idea of the landscape that our human ancestors inhabited. —PH

SOCIAL SCIENCES



Student photos from the MyMcKenzie project. Ripples by Angelina Hellar.

Capturing the McKenzie: Recognizing What We Have

The McKenzie River is an essential resource for more than 200,000 Oregonians who rely on its clean water every time they turn on the tap. Running west from the Cascades to its confluence with the Willamette River in Eugene, the McKenzie is praised by locals and state environmental agencies for its sparkling clarity.

But for five students who participated in a recent class called MyMcKenzie, the river's water quality is only one part of a much more complex story.

MyMcKenzie was a service-learning class in the Environmental Leadership Program (ELP) that allowed students to apply their academic knowledge to a community-based service project. It was designed by ELP co-director Peg Boulay, with the aim of connecting the science of watershed health

and conservation with the craft of visual communication and storytelling.

In addition to lessons about the river's ecosystem, the course focused on digital photography instruction, website design, interpretive display creation and other public outreach vehicles. Field trips included visits to lakes, reservoirs, waterfalls, hiking trails, bridges, dams, parks, a hatchery and even a lodge and fly shop—to observe the river from many perspectives and photograph the watershed's landscape.

"Art provides a personal, experiential connection to the environment and can show the hidden personality of a place," said Boulay, whose goal was for students to gain a multifaceted understanding of the river and then share their

discoveries with the community. "We promoted conservation by illustrating the connections people have with this beautiful yet fragile river."

From hundreds of photos amassed during fall quarter, the class selected some thirty images for photo essays that they featured on the student-designed MyMcKenzie website (see Online Extras, p. 28). The students also participated in the McKenzie Christmas Bazaar to share photos and stories with residents and created a photo gallery that was on display in Columbia Hall on campus all year.

Students brought diverse perspectives, which informed their exploration of what makes the McKenzie special.

For UO senior Rick Gurule, a life-long McKenzie boater and fisherman, the class was a chance to reflect on the place he is from and how it has changed.

"It's important to show the beauty of this river and that it is really clean, but up close it's also starting to show signs of stress," he said. "Our salmon numbers are way down. The wild spring Chinook salmon and bull trout—you can't fish for them anymore. And algae, you used to never see it. Now, you put out a rock and let it dry and it has got a cakey powder on it. That wasn't always the case."

Cassidy Ventura, a senior environmental studies major from Hawaii, offered the perspective of an outsider to the area. "On the islands, conserving the limited fresh water available is such a big issue, but here—there is so much water," she said.

"I'm in amazement looking at the volume of water in Clear Lake and Great Springs. These places are unique in the world. We learn about conservation issues, but a big part of promoting conservation is just recognizing what we have." —PH



The Fight by Mason Trinca.

The Great Social Experiment of the European Union

Each year, the UO sends a team of outstanding undergraduates to the Model EU convention, a once-a-year simulation of a European Council Summit. It's a plum assignment for students associated with the UO's European studies program.

At the 2012 Model EU, held at the University of Washington in February, two UO students negotiated on behalf of the Netherlands, and two others on behalf of Luxembourg. This year's themes: a new EU treaty prompted by the euro crisis and the reform of Europe's Common Agricultural Policy.

UO senior Erin Altman, who played the role of Luxembourg's minister of agriculture, was one of ten students recognized for their superb negotiation skills.

"The summit requires students to master details of complicated European policies," said UO history professor George Sheridan. The students submit position papers, "and then they get up and passionately defend the interests of their assigned country in front of a roomful of people they don't know. It's a tremendous learning experience."

Sheridan is a member of the core faculty for the UO's European studies program, an interdisciplinary curriculum designed to explore the complex dimensions of the United States' oldest and most significant global alliance.

While China looms large on the international horizon, ties to Europe continue to be more important to the U.S. than relations with any other region, claims Craig Parsons, director of the European studies program.

Parsons cites a few economic facts: The European Union's GDP is currently larger than that of the United States. It's the world's largest export market, the world's second largest import market and the recipient of the vast majority of U.S. foreign investment. Overall, business, diplomatic, nongovernmental and legal connections between the U.S. and Europe comprise the most influential international network in the world.

The university's ties with Europe are also extensive. It's the region of choice for more than half of all study-abroad students and approximately three-quarters

of foreign language enrollments at the UO are in European languages.

Starting in 2010 the UO began offering students the opportunity to pursue a minor in European studies, an upgrade from the program's previous offering of a certificate in the field.

The UO European studies program distinguishes itself by its inclusive interdisciplinary approach—combining social sciences (history, geography and political science) with several other disciplines (classics, comparative literature, music, religious studies, art history and more) and a required European language to promote a comprehensive understanding of Europe's identity and role in the world.

And the timing couldn't be better. "We believe that in the European Union we have the opportunity to study the progress of a great social experiment in all its lived reality," said Parsons. "Our students will be able to consider the interaction of the full range of human forces combining to create twenty-first-century Europe."

Whether students are majoring in languages, business, international studies or another field, a minor in European studies offers them a chance to hone their appreciation for the relevance of modern Europe, both past and present. —PH

New Age Nirvana, Revisited

The Esalen Institute, a famous retreat center overlooking the Pacific Ocean on the cliffs of Big Sur in California, has offered sanctuary to individuals seeking personal growth since its founding fifty years ago.

In its early days, the institute was at the core of a movement redefining spirituality in the U.S. New-age luminaries like Joseph Campbell, who mainstreamed the concept of "finding bliss," and Abraham Maslow, the father of humanistic psychology, hosted workshops at Esalen that helped popularize quests for self-transformation. Today Esalen continues to host some 500 workshops each year.

In her new book, *The American Soul Rush: Esalen and the Rise of Spiritual*

Privilege (New York University Press), Marion Goldman, a UO sociologist and professor of religious studies, discusses the influence the center has had on the growth of diverse spiritual



practices in America. At the same time, "Goldman's study is the first book to take a hard look at how issues of social class and male chauvinism have influenced the governance and direction of this seminal institution," according to a *San Francisco Chronicle* reviewer.

Goldman points out that centers like Esalen tend to be frequented by individuals who have the education, financial resources and social connections that allow them to exercise a greater degree of "spiritual privilege" than those less fortunate.

As for control of the institute, it has been not only affluent, but also predominately male. "Privileged men developed and spread Esalen's unique approaches to . . . spirituality, and they continue to elaborate its doctrine and quietly control the institute." Goldman wrote.

To explore her thesis, she profiles four men associated with the institute: founder Michael Murphy; David Price, son of co-founder Dick Price; Gordon Wheeler, president of the institute; and Albert Wong, a scientist who radically changed his life as a result of his Esalen experience. —PH

Natural Sciences

Geraldine Richmond Elected to National Academy of Sciences

She Becomes Only the Eighth Woman Among 200 Members in the Chemistry Division

conventional wisdom says that if you have side interests outside your scientific research—if you're not focused on the science 24/7—your work is less likely to be recognized by august institutions such as the National Academy of Sciences (NAS).

"If you do anything other than your science, it's perceived to be to your detriment," said Geraldine Richmond, who holds the UO's Richard M. and Patricia H. Noyes Professorship in chemistry.

But Richmond's own long list of accolades proves there are exceptions to this rule.

Richmond, who will be inducted in April into the NAS—the highest honor a scientist can receive in the U.S.—has side interests that are both demanding and highly visible. Most notably, she is the founding chairperson of COACh (Committee on the Advancement of Women Chemists), which is committed to increasing the scientific success and leadership capacity of women scientists and engineers.

With her National Academy of Sciences election, Richmond becomes only the eighth woman among 200 members in the NAS chemistry division and the first female among the UO's six NAS members—underscoring the gender disparities she endeavors to change.

Under Richmond's leadership over the past fifteen years, COACh has conducted professional trainings and programs for more than 6,000 female researchers, faculty members, graduate students and postdoctoral associates across the U.S. Over time, COACh has expanded to include physical scientists beyond chemistry and extended its geographic reach internationally, most recently to developing countries in Africa and Latin America.

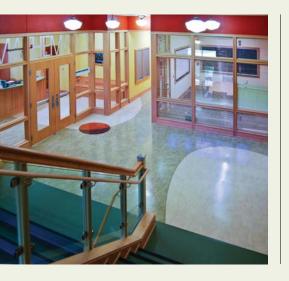
Richmond is a hands-on leader for these international initiatives, traveling to China, Cameroon and South Korea in just the last year alone as a COACh ambassador.

"Geri is not only a top scientist, but also a scientist very concerned about the future of young scientists, particularly



women," said Isiah M. Warner, professor of chemistry and vice chancellor for strategic initiatives at Louisiana State University. "I can't think of anyone who is better at balancing work and service. She can do it all."

Warner has known Richmond since they both were selected as National Science Foundation Presidential Young Investigators in 1983. This award was among the first in a long list of national and international honors Richmond has earned over her thirty-year career. Among the most notable, she has been named a fellow of the Society for Applied



Fenton Hall Transformed

No doubt you spent at least some small part of your academic career in Fenton Hall, home to the math department for the past thirty-five years. But Fenton hasn't always been the math building. Constructed in 1906, it originally housed the campus library and then the law school before the math department moved in at the start of the 1977–78 academic year. With each iteration, renovations took place that eventually resulted in compromised mechanical, electrical and especially structural systems.

Thanks to financing from the state's deferred maintenance program—plus an additional \$100,000 from 200 math graduates and David Moursund '58 and his late wife, Sharon Yoder—a two-year renovation was completed in July 2011. The result: a more energy-efficient, seismically safe, aesthetically pleasing and accessible Fenton Hall. The exterior of the building retains its historic look, but the interior brings Fenton into the twenty-first century. —LR

Spectroscopy, the American Physical Society and the American Academy of Arts and Sciences.

Last year was a banner year for Richmond in terms of recognition. Along with her NAS election, she was named a fellow of the American Chemical Society and also won the Joel Henry Hildebrand Award in Theoretical and Experimental Chemistry of Liquids, one of the highest honors bestowed by the ACS.

Warner calls her "one of the top five in the world" in her area of expertise: studying molecular structures and interactions at surfaces—such as those of water or glass—seeking to understand the most fundamental interactions underlying many environmental, chemical and biological processes.

Getting into the top five—and the National Academy of Sciences—requires an extraordinary time investment in scientific investigation. That means years upon years of dedicated research—which is why those time-consuming side interests are discouraged. So how has she done both?

Richmond acknowledges the essential role played by the graduate students and postdocs in her lab. "They do the heavy lifting," she said. But the research, of course, is hers and perhaps more fundamentally, her "side" interests are not really on the side at all, but a necessary part of the whole.

"I can't just do the science. I need the diversity," she said. "Science is not enough in a life." —LR



Remember this uninviting landing inside Fenton's main entrance? Behold its transformation (left).



Science Award Winners

In addition to Geraldine Richmond's election to the National Academy of Sciences and Brendan Bohannan's selection as a Google Communication Fellow (see page 2), two dozen other UO scientists received honors for their work over the past year.

Association for Psychological Science Fellow

Association for Psychological Science Ed Awh, Psychology

DuPont Young Professor

E.I. du Pont de Nemours and Company Shannon Boettcher, Chemistry

Discovery Award Oregon Health & Science University Foundation's Medical Research Foundation

of Oregon Chris Doe, Biology

Senior Fellow, Center on the Developing Child

Harvard University Phil Fisher, Psychology

Award for Outstanding Contributions to Science in Trauma Psychology, Division

American Psychological Association

Jennifer Freyd, Psychology

Distinguished Achievement Award International Society for the Study of Trauma and Dissociation

Jennifer Freyd, Psychology

American Physical Society Fellow American Physical Society

Marina Guenza, Chemistry

AAAS Fellow American Association for the Advancement of

Science Michael Haley,

Chemistry

Distinguished Career Contributions to Research Award

American Psychological Association Gordon Hall

Gordon Hall, Psychology

Scialog Fellows Grant Research Corporation for Science

Advancement Darren Johnson, Chemistry

Humboldt Research

Alexander von Humboldt Foundation Alexander Kleshchev.

Alexander Kleshchev, Mathematics

Sloan Research Fellowship Alfred P. Sloan Foundation Cris Niell, Biology IPSEN Neuronal Plasticity Prize La Fondation IPSEN

Helen Neville, Psychology

Transforming
Education Through
Neuroscience Award
International Mind,
Brain, and Education
Society

Helen Neville, Psychology

Pew Scholar The Pew Charitable Trust

Brad Nolen, Chemistry

John J. Carty Award for the Advancement of Science National Academy of

Sciences Mike Posner,

Psychology
Eleanor Maccoby

Award
American Psychological
Association

Mary Rothbart, Psychology

American Academy of Arts and Sciences Fellow

American Academy of Arts and Sciences Eric Selker, Biology Margaret Gorman
Early Career Award
American Psychological
Association

Azim Shariff, Psychology

Fulbright Fellowship Fulbright Program

David Sokoloff, Physics Basil O'Connor Starter Scholar Research

Award March of Dimes Foundation

Kryn Stankunas, Biology

Scialog Fellows Grant Research Corporation for Science Advancement

Richard Taylor, Physics

Simons Fellow in Theoretical Physics Simons Foundation John Toner, Physics

AAAS Fellow

American Association for the Advancement of

Craig Young, Biology, Oregon Institute of Marine Biology

Richard T. Jones New Investigator Award Oregon Health &

Science University
Foundation's Medical
Research Foundation of
Oregon

Hui Zong, Biology

Cadaver Lab Moves Into Old Chemistry Space

And Chemistry Moves Into a Sparkling, Spacious New Lab

In Jon Runyeon's advanced

anatomy class, the first task he assigns his students is "get to know your cadaver."

Over the course of spring term, students will undertake the extraordinary task of dissecting a human body, but Runyeon gives them a week to study the outer appearance of the cadaver before performing, as he calls it, "the first cut."

Working in groups of ten, the students do a visual inspection of the cadaver they will eventually dissect. Much like CSI agents, "they are looking for clues that might tell them something about the person's last moments of life," said Runyeon. A dark band across the midsection, for instance, might indicate trauma from a seat belt, which in turn would suggest an auto accident.

"We try to get a vision of what their life might have been like," he said. "It's our way of paying respect to that person."

From there, students develop a plan for



Dissecting a cadaver is a remarkable opportunity for UO students. Five cadavers (under plastic sheeting, above) arrive each spring.

dissecting the body region they have been assigned (thorax, skull and so forth).

Eventually, though, they must take up their scalpels and begin the dissection, an act that often involves some hesitation. "Cutting that first inch of tissue might take an hour," Runyeon has observed. But he assures his students that there's no wrong way to proceed—except to cut too deep.

Dissecting a cadaver is a remarkable opportunity for UO students. This advanced anatomy class is open to both undergraduate and graduate students who have completed first-year anatomy. Especially for undergraduates, the opportunity is "unheard of," said Runyeon.

Most universities that offer a dissection course reserve this experience for graduate students or medical students. As a result, UO undergraduates who take this class have an edge when they go on to study medicine, dentistry or physical therapy. "They tell me they are light years ahead of their peers," said Runyeon.

Five cadavers arrive each spring from the Oregon Health & Science University body program. And now that the cadaver lab has moved into a newly renovated space—loaned to the Department of Human Physiology by the Department of Chemistry—the lab will be able to accommodate eight cadavers in the future.

Study Abroad—In Your Own Backyard

Oregon is a great place to ramble if you're interested in geology. Volcanoes, craters, buttes and ancient floodplains are among the many geologic features that offer clues about life on Earth over the last 10,000 or even 10 million years.

But Oregon is equally fascinating if you care about the present tense. With its diversity of ecosystems—forests, deserts, mountains and seashores—the state provides a living laboratory for the biologically minded.

Last spring, a select group of students had an opportunity to explore all of the above through a unique set of courses that combined biology and geology—along with history—in a pilot called Oregon Abroad.

The name plays off the concept of study abroad, but with a twist: what if going "abroad" can be just as enriching in your state's backyard as it is when traveling to other countries? True to this spirit, the program sends students out into the field to explore Oregon's dramatic landscapes and rich Native American history.

The initial cohort of twenty students spent at least one full day per week outside observing and analyzing the state's natural phenomena. The course began in the Willamette Valley, moved to Oregon's coast range and ended in the iconic volcanic landscapes east of the Cascades. During the last third of the term the class spent nine days at Malheur Field Station

in the Great Basin.

Created and taught by a biologist, a geologist and a historian—Bitty Roy, Josh Roering and Matthew Dennis, respectively—the program aimed to deepen students' understanding of each academic subject and also utilize the unique outdoor setting to discover, as a team, how these various subjects are inextricably linked.

"In a classroom, the tendency is to focus on a few abstract details, but outside, you're constantly reminded of interconnections," said Roy, a professor of biology. "You can really see the interaction between the landscapes and the plants, and the fact that they influence one another."

NATURAL SCIENCES



Inspiring Future Chemists

The new cadaver lab now occupies half the space that once housed the old general chemistry lab in the basement of Klamath Hall. The remaining half of the old lab remains intact, and Mike Haley, chemistry department head, likes to take visitors downstairs to the dark, windowless space to show the relative dark ages of the introductory facilities for chemistry undergraduates.

Indeed, the old (and now unused) chemistry lab, originally built in 1969 and featuring cabinets constructed decades before that, looks like a throwback to the Sputnik era.

"If this is the first lab you see, you're

not going to be inspired to be a chemist," Haley said.

Haley then takes visitors upstairs to show off, by way of contrast, the new \$1.2 million spacious, light-filled chemistry laboratory, which occupies 4,000 square feet on the second floor of Klamath.

Besides brand-new glassware, instruments, hoods and safety gear, each workbench also features new Macintosh computers for recording and analyzing results. A wall-mounted wide-screen projector shows target outcomes, such as the correct spectral analysis of a given experiment.

This new second-floor laboratory (shown above) is actually a renovation of additional chemistry lab and office space—more modern than the basement lab, but not configured or outfitted to keep up with increased demand for the general chemistry lab course.

Haley states that previous enrollments in this lower-division lab had to be limited to a total of 660 during any given term, but with the expansion, enrollment leaped to 820 the first term the new space was used (a 25 percent increase), suggesting a pent-up demand for all things science.

The students who take introductory chemistry and organic chemistry are not necessarily chemistry majors. Many students majoring in other sciences, such as molecular biology and human physiology, are required to take chemistry as part of their curriculum.

But Haley hopes the new facility will entice greater numbers of science-minded students to consider chemistry as a major, once they get a feel for the advantages of working in a modern laboratory.

A further enticement: a soon-to-be installed microwave reactor that allows students to conduct reactions in ten minutes that previously might have taken two to three hours to complete.

"The UO will be one of the first schools that makes this technology available in the undergraduate curriculum," Haley said. —LR



Oregon Abroad students, shown here at Hart Mountain, explored the link between biology, geology and history.

For example, students kept records of landform types, soil pH and associated plant communities, a practice that emphasized the relationship between geologic formations and local flora.

Students also examined ancient petroglyphs, evaluated the impact of timber harvests on erosion, mapped meandering rivers, completed biologic transects of hills in the coast range and explored underground lava tubes.

"As historians, we don't get out in the field so much," said Dennis, a professor of history. "It was an unusual opportunity to take history students out and to use real places the way you would use a printed document." And then there was the chance to explore how history is informed by physical and natural science. "We were able to use some of the scientific

techniques from biology and geology to reconstruct what places might have looked like in the past," Dennis reported. "And how they have changed over time."

"It was great to get out of the classroom and have tangible experiences rooted to a physical place," said Oregon Abroad student Leisha Wood, now a senior majoring in environmental studies.

Wood also emphasized her appreciation for the team approach fostered by the faculty mentors.

"As early as the second day, everyone was contributing to the discussion. That doesn't ever happen in the classroom."

Roy, Dennis and Roering, an associate professor of geological sciences, plan to offer the course again in 2013 and to continue the program every other year.

—PH

CONTINUED FROM PAGE 4

A: It's had such a profound effect it's hard for me to know where to begin. It's affected the way I teach science, the way I communicate science more broadly and also how I practice science.

One of the main changes in my teaching is that I'm much more interested in the narrative. I value storytelling more as a teacher than I used to. I try to have an arc to my lectures so that they're more like stories, where I introduce some ideas, we develop them and then come back around to them at the end. To do that sometimes means that I have to present less material, but I'm convinced that my students are retaining more when I present it in this narrative kind of format. The way humans learn is through storytelling. I used to think a story was something that's been made up or where liberties have been taken with the facts, but that was a misunderstanding on my part. Storytelling is important.

The first lecture I give when I teach upperdivision ecology is to tell the story of a K—12 teacher in Minnesota who went on a field trip with her students to sample frogs—and the kids all found frogs with horrendous deformities. When I tell this story, I ask my students to imagine they're the teacher and the kids are bringing back frog after frog—not just one or two—with extra limbs and missing eyes. I then ask, "what would you do next if you were this teacher?" In this way, I start to introduce them to the detective story around these

"I feel that my enemy, as a scientist, is selfdeception—I have to constantly be a skeptic of my own thinking." frog deformities. The goal is to give them a feeling for how ecologists do their job and the complex web of interactions that ecologists have to untangle.

Even when I give scientific talks at meetings I try to tell a story. Rather than follow the convention of telling the big picture and then moving down to what I did, the most effective talks or lectures or teachings I give, start with some hook.

And when I actually do science—when I'm setting up an experiment or study—I'm now thinking about how I would communicate it. This is a delicate issue. I have to be very careful. I don't want to anticipate what the story is, sort of write it in my head before I do it, because it's so compelling to then find the story that you were looking for. I feel that my enemy, as a scientist, is self-deception—I have to constantly be a skeptic of my own thinking, as much as anyone else's.

But I do think that constantly looking for the story in my work is really important, and that's come from trying to be a better scientific communicator. The process of looking for where a story might be means I have to constantly hone the questions I'm asking.

Q: Can you give an example?

A: In the Amazon project, one of the initial questions we wanted to ask was, how does diversity change when you convert forest into a farm? We thought it should be obvious—you take this amazingly diverse rainforest and turn it into a cattle ranch, so we imagined the diversity should go down. That was the story in our mind; it was one of our hypotheses. But what we found, very strongly, was that when you turn a forest into a farm, the diversity goes up. And by this I mean that, if you count the number of types of microbes in the soil samples from forest and pasture, there are more types in the core from the pasture.

There are many responses you could have to that. You could have a dispassionate



Brendan Bohannan with his research colleagues in the Amazon Rainforest.

one: "Okay, I've disproven my hypothesis and I'm going to report that." You could think about why this result might be. You could also consider how this changes the story you're telling—in other words, what are the many different stories you could tell about this data? One story is that if all you care about is the diversity of microbes then you should be converting forest to farms even faster.

But this doesn't capture the whole story of our research. It led a number of us to think in different ways about how we conceive of diversity and what that means. This is one aspect of diversity—how many types you find when you sample. But another aspect is how similar they are across space. And so we started to change our story to thinking: If we look at other aspects of diversity, is it the same? Which led us to then ask: If you compare any two cores from the pasture or the forest, on average do they share more or less of the types of the microbes present? And what we found was that in the forest, any two cores share fewer types than in the pasture. In other words each core is more different-more diverse-in the forest than in the pasture.

Q: So once you got your initial results where you had more diversity in the ranch samples—in the deforested part than in the forest itself—and thought about the narrative that would come out of that, this caused you to think about extending the research to this additional level of analysis.

A: Yes, exactly. We had a finding. You don't need a story to interpret the finding. Diversity is higher. So we could have just reported that, linked it to what others have found in other sorts of environments and left it up to reporters to ask what the implications are.

But now I think about the story that reporters are likely to tell. And I believe that makes me a better scientist. It also makes me a more skeptical scientist.

In this case, a likely story from that original result was that we should be burning down the Amazon Rainforest. But this story was dissatisfying on some levels and it also didn't capture completely what we felt was going on in the soils. So that led us to look for other stories that were honest portrayals of what we were doing. But it also made me wonder why some stories are satisfying and some stories are not. That led me to the whole area of the philosophy of science, and I went to a philosopher colleague on campus [Ted Toadvine] whom I've taught with.

I shared with Ted that many of us were uncomfortable about the result we got, and what did that mean? This is a touchy area. It's also another area we do a bad job of communicating about science that scientists are not robots. We have values, we have life experiences that lead us to make certain assumptions. We try to minimize the impact of that on our observations, but it's still there. And so those values and assumptions came out when we were evaluating this story. Ted and I had a great time discussing what it was about it that was so dissatisfying and we really focused on the concept of diversity—how complicated it is and what a poor job it does of capturing all the things we value about something like a rainforest.

Q: So in seeing that the possible story was "more deforestation is a good thing," did you feel you had an ethical obligation, based on your values, to push that further, to see what else your results might mean?

A: That's right. I think that's perfectly accurate, and you can resolve that in different ways. I think the fear that people have is that when scientists run into those conflicts between our observations and

"People fear that when scientists run into conflicts between our observations and our values, then we bury the science."

our values, then we bury the science or we lie about it, and that's part of the backlash against the science of climate change. The scientists I know don't do this, and neither do I. I see that conflict as an area where it's particularly important that I'm very careful and skeptical because this is sort of a dangerous place where the potential for self-deception is much higher. That's why I talked to people like Ted, and made it really clear that I was feeling these conflicts. On one level it was disturbing but on another it was fascinating because it means I'm in an area where I have to be really careful about what I do. So that led us to think more clearly about the fact that what we saw was absolutely true for one component of diversity, but what if we looked at other things?

Q: And does that then extend the definition of diversity?

A: It does, for us. The way that it's usually defined for the purposes of measuring it in the field is the first definition that we used: the number of types you find at a particular place. But there are many other ways you could think about diversity rather than just counting the number of types. And that pushed us to think about those other definitions.

In tropical forests, there's all this diversity of plant life above ground and not very much going on below ground. Especially in the part of Brazil that we're working in, all the soils are actually poor in nutrients—whatever nutrients end up in

the soil are sucked up by the plants really quickly. So when you burn that forest down and plant grass, the African grasses they use have really big root systems relative to the plants that we see above ground in the rainforest, so they take the carbon they suck out of the atmosphere and don't turn it into big elaborate trees—they pump it all into roots. They're actually fertilizing the soil, in a sense. And that's part of the reason why we see, in any one place in the pasture, more types because there's just more food for them. But at the same time, by planting all the same species everywhere, this makes the kinds of food much more similar across the pastures. So across the whole Amazon region, we're probably decreasing diversity by turning the forests into farms, because things become more and more alike.

All of this is related to asking the "why should I care?" question much more than I used to. Early in my career as a scientist, I didn't ask that question very much. I was concerned it would interfere with my ability to be objective, to ask the right next question. But now I think about it all the time, and I think it comes out of this ethical obligation I feel now to do a good job of communicating what I'm doing as a scientist. I also push my students now to answer the "why should anyone care?" question—not just scientists, but the average person or student.

Q: Does asking that question shade your ability to be objective?

A: I don't think it has. I'm proud of the fact that we're generating information that will help solve problems that are really pressing for society. But what really motivates me, what makes me think about my science when I wake up in the morning, is just pursuing my curiosity. In that sense I feel more like an artist than an engineer. I have this desire to discover new things that keeps me going, and I don't know where that's going to take me.

Online Extras

cascade.uoregon.edu



EYES ON THE PRIZE: Cris Niell is one of two dozen UO scientists who've recently received national honors (see p. 23)—in Niell's case, a prestigious Sloan Fellowship. Niell, a neuroscientist, studies how the brain processes images sent by the eye to perform visual tasks such as recognizing a friend's face or catching a Frisbee. Read more at cascade.uoregon.edu.



MATHEMATICAL MARVELS: Not only is the newly renovated Fenton Hall easy on the eyes (see p. 22), but it also features several design elements that illustrate the beauty of math. The symbol to the left is among the "conic sections"—think circle, ellipse, parabola, hyperbola—embedded in the floor just outside the math office. Even the skylight is a marvel of mathematical precision. See and read more at cascade.uoregon.edu.



HIS MCKENZIE: Rick Gurule (left) grew up on the McKenzie River. Now a UO senior, he was one of a select group of students who documented the beauty and fragility of the McKenzie watershed last year (see p. 20). Read Rick's tribute to the steelhead and Chinook salmon that rely on the river for sustenance—and view his classmates' photos and essays—at cascade.uoregon.edu.



WILL THE UO SOON BE GOVERNED BY AN INDEPENDENT BOARD? Scott Coltrane, in this issue's Dean's Page (see inside front cover), describes the connection between the UO's ongoing status and strength as a research institution (as evidenced by numerous faculty awards) and the need for an independent governing board. Check out cascade.uoregon.edu for links to updates on where things stand with the legislative process.



FOOTBALL VICTORIES LOBOTOMIZE MALE FANS: This is not our headline—it's *The Wall Street Journal*'s. The *WSJ* was among hundreds of media outlets that followed up on a recent UO economics study entitled, "Are Big-Time Sports a Threat to Student Achievement?" The study's authors concluded that football success is indeed correlated with a decline in grades—for male students only. Read more at cascade.uoregon.edu.



DIGGING IT: Graduate student Raj Vable is the current recipient of the UO Public Impact Fellowship for his work in rural India (see p. 18), and you can watch a video about his project at cascade.uoregon.edu. You can also read about two previous recipients who have used their stipends to help them dig—literally—for answers to their research questions.



FOLLOW US ON FACEBOOK: The UO College of Arts and Sciences now 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.

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CAS Social Media Directory

All College of Arts and Sciences departments have websites and many also offer social media connections for students, faculty members, alumni and friends. Below is a current listing of CAS social media connections. A continually updated directory will be maintained on the College of Arts and Sciences home page, cas.uoregon.edu—where you can also click through to all of the links below, rather than typing them in.

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Blog (Graduate Evolutionary Biology and Ecology Students): grebesuo.wordpress.com

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Chemistry

Facebook: https://www.facebook.com/ pages/University-of-Oregon-Department-of-Chemistry/146835772024689

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Tumbler: cinemastudiesuo.tumblr.com/

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Facebook: www.facebook.com/UOCompLit

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Economics

Blog (Tim Duy): economistsview.typepad.com/

Blog (Mark Thoma): economistsview.typepad.com/ economistsview/

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- Facebook (peer advisors): www.facebook.com/ ecopeers

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Geological Sciences

Facebook (undergraduate geology club): www.facebook.com/pages/University-of-Oregon-Geology-Club/242043502518933

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Blog (Katie Marks, graduate student): volcanicventures.wordpress.com/

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- Environmental science BA, BS
- Environmental sciences, studies, and policy PHD
- Environmental studies BA, BS, MA, MS
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