

CASCADE

UO COLLEGE OF ARTS AND SCIENCES

FALL 2011

Can We Talk?

Passionate language learners pursue
"skills for a shrinking planet"



UNIVERSITY
OF OREGON

HOW MICROFINANCE HAS FAILED TO DELIVER • PLAYING THOSE MIND GAMES, FOREVER

Language instruction has been transformed over the last decade as the range of student abilities has become vastly more complex.



Scott Coltrane, Tykeson Dean of Arts and Sciences

JACK LIU

As the cover of this issue of *Cascade* suggests, the UO places a premium on “skills for a shrinking planet,” i.e. preparing our graduates to encounter a world that is becoming significantly smaller—not only in terms of global commerce but also in the increasing permeability between national boundaries and identities.

Consider the vast numbers of individuals worldwide who are working outside their home countries—many out of sheer economic necessity and others because their personal interests, training and talents inspire them to relocate to other countries and cultures in pursuit of their career paths. Already, approximately 13,000 UO graduates live and work outside the U.S. and these numbers will only continue to rise.

Paradoxically, a shrinking planet creates a much larger challenge for us as educators. Language instruction, for instance, has been completely transformed over the last decade because the range of student interests and abilities has become vastly more complex. In this issue, you will read about how the UO has risen to this challenge in the delivery of Spanish and Chinese language instruction.

One of the great advantages of the UO is its “human scale,” meaning that, while a nationally ranked research institution, it is still small enough that students can experience transformative encounters with a diverse world of ideas, fostered by personal interaction within the classroom, the laboratory, the studio and the field.

Currently, one of the most intimate learning settings on campus is the International House, which is home to several Freshman Interest Groups with international themes. Typically 30 percent of the residents of the International House are from countries other than the U.S.

Among the unique living-learning opportunities afforded there is a residential program for Chinese Flagship students (see page 6 for our story), which provides a Chinese immersion experience for students dedicated to the study of Mandarin. This type of immersive opportunity will expand further in 2012 when the UO’s new residence hall opens for Chinese, Spanish and other languages, integrating language immersion into different floors.

A liberal arts education with an international emphasis not only promotes personal growth and intellectual understanding, but also helps prepare students for an uncertain future. The tremendous pace of change in our world means that we may be training students for jobs that do not yet exist. Therefore we must ask what abilities and skills are most likely to enable students to adjust successfully to a future that none of us can foresee. By helping students to question critically, think logically, communicate clearly, act creatively and live ethically we can better prepare them for careers that we cannot yet imagine—no matter where in the world they might be.

In support of this, our faculty members carry out rich and diverse research on an international scale and we take pride in our institutional participation and leadership in many international associations. By recruiting more international students and faculty members, sending more students and faculty members abroad, promoting cross-cultural understanding in the curriculum and supporting language proficiency in our new residence halls, CAS continues to take an active role in forging a more global future for Oregon.

A handwritten signature in blue ink, reading "Scott Coltrane".

Features

CASCADE

UO COLLEGE OF ARTS AND SCIENCES

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

Dean of Arts and Sciences
Scott Coltrane

Senior Associate Dean, Chief of Operations
Marianne Nicols

Associate Dean, Humanities
Judith Baskin

Associate Dean, Natural Sciences
Dana Johnston

Associate Dean, Social Sciences
Andrew Marcus

Senior Director for College Advancement
David Welch

Director of Communications, Cascade Editor
Lisa Raleigh

Writers
Patricia Hickson
Lisa Raleigh
Eric Tucker

Copyediting
John Crosiar
Michie Page

Photography
Katie Campbell
Jack Liu

Design and Production
Lori Howard

Web Design
Ben Brinkley



ASK THE EXPERT—HOW MICROFINANCE HAS FAILED TO DELIVER 2

An anthropologist examines how the much-touted practice of microlending has failed to alleviate poverty in Bangladesh.

CAN WE TALK? 4

Passionate language learners pursue their individual vision for acquiring “skills for a shrinking planet.”

PLAYING THOSE MIND GAMES, FOREVER 10

Are the imaginary friends of childhood—and even adulthood—a sign of superior creativity or do they imply confusion between reality and fantasy? Or all of the above?



Departments

DEAN'S PAGE Inside cover

A shrinking planet creates a much larger challenge for us as educators

HUMANITIES 14

Cultural preservation by digitization, the Dylan Thomas poetry prize, West Coast speech and other highlights from the humanities

SOCIAL SCIENCES 18

The neoclassical economist, the technology skeptic, Nixon in China and other highlights from the social sciences

NATURAL SCIENCES 22

Converting sunlight to hydrogen fuel, computing via the cloud, analyzing cancer and other highlights from the natural sciences

CAS ALUMNI 26

In memoriam: Officer Chris Kilcullen '95 (sociology and psychology)

ONLINE EXTRAS 28

Cover: ©iStockphoto.com/Duncan Walker



The University of Oregon is an equal opportunity, affirmative action institution committed to cultural diversity and compliance with the Americans with Disabilities Act. This publication will be made available in accessible formats upon request.
© 2011 University of Oregon
DES0811-013h-B18105

CAS Advisory Council

| | | |
|----------------|------------------|-----------------|
| Bruce Abrams | Dar Isensee | Rhonda Meadows |
| Les Bergeron | Chris Kantrowitz | John Natt |
| Spencer Brush | John Kennedy | Dan Olson |
| Judy Calkins | Ed Kushner | Barbara Perry |
| Mike Couch | Jeff Loomis | Phil Seeley |
| Judi Davis | Ann Lyman | George Slape |
| Taylor Fithian | David Lyon | Penny Wilkes |
| Bill Herzog | Tom Marriott | Carolyn Younger |
| Tom Hewkin | Penny Martin | |
| Ray Honerlah | Mike McCaslin | |

Contact us:

UO College of Arts and Sciences
1245 University of Oregon
Eugene OR 97403-1245
Phone: 541-346-3950
E-mail: cascade@uoregon.edu
Web: cascade.uoregon.edu
Facebook: facebook.com/UOCAS

How Microfinance Has Failed to Deliver

Microfinance—the practice of loaning a small amount of money to individuals without collateral—has been touted in recent years as a panacea for global poverty. It first became popular in the 1970s when economist Muhammad Yunus experimented with loaning \$27 to a group of poor Bangladeshis, who were actually able to turn a tiny profit with the extra cash. Yunus went on to found Grameen Bank, which soon issued millions of dollars in microloans to the poorest of Bangladesh.

Over the past decade hundreds of institutions modeled after Grameen Bank have sprung up to offer loans to poor people all over the world. The United Nations declared 2005 as the year of microfinance and in 2006 Yunus received the Nobel Peace Prize for his work. Women have become the major recipients of such loans because banks claim they are the most reliable borrowers, and many financial backers have a special interest in female empowerment.

However, Yunus and Grameen Bank have recently come under attack for questionable business practices, and this in turn has dimmed the luster of microfinance. But there have actually been skeptics all along.

Lamia Karim is one of them. Karim, an associate professor of anthropology at the UO, grew up in Dhaka, Bangladesh. She has long harbored



Lamia Karim: "We should be always very skeptical when people start targeting the poor with debt in the name of empowering them."

suspicions that microfinance is not a silver bullet for ending poverty, and in 1998 she returned to her home country to research the actual impact of these loans on the women and families who receive them. Further research in 2007 helped her document the often grim reality.

The title of her new book, *Microfinance and Its Discontents* (University of Minnesota Press, 2011), leaves no doubt as to her stance: Karim has become a much-quoted critic (*Wall Street Journal*, National Public Radio) of the once-lauded practice of microfinance.

Interview by Patricia Hickson

Q: The premise of your book is that microfinance has actually had a negative impact on the lives of many women who received loans. Why doesn't microfinance work?

LK: If you give small loans to people who do not have any marketable skills, or are not engaged in business, they are going to become consumers, not producers. The people targeted for microfinance loans are very, very poor. You give them enough money to buy, say, four chicks, and the idea is they can raise these chicks as chickens and then sell the chickens, or sell their eggs. But what if the chicks die, or the family cannot afford chicken feed? Sometimes the family will pressure the women to take the loan—"Just get the money, we'll figure out how to pay it back somehow"—but really, they have no way to pay it back because they are so poor. We should be always very skeptical when people start targeting the poor with debt in the name of empowering them.

Q: Does microfinance ever work?

LK: Microfinance works when the loan is given to someone who has a small operation, say a bike shop. Then maybe he or she could expand this shop by hiring another person or buying some equipment. But these kinds of people usually don't get loans from institutions like Grameen Bank because, if you have a little shop, you are not the poorest of the poor, which is who the banks are supposed to lend to.

Q: Many of the lending institutions claim 98–99 percent loan recovery rates. How is that possible?

LK: These rates are very high, by any standard. Either all these poor people are becoming successful entrepreneurs or there is another story. What I've found is that the lenders will do whatever it takes to recover the money. Often their techniques involve shaming the women who are in debt. If these methods of humiliation do

not work, they will sell items owned by the family. Occasionally they will give the woman another loan to cover her old loan, putting her further into debt. Basically, the return rate statistics are not a measure of the industry's ability to solve poverty.

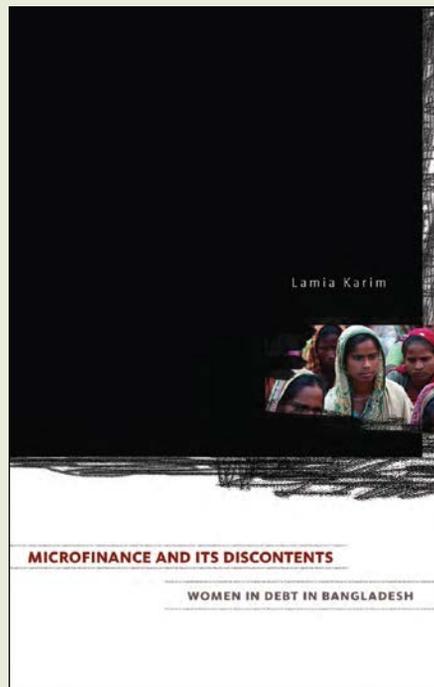
Q: You talk a lot about shaming techniques in your book. What does this mean?

LK: You have to understand Bangladeshi culture to recognize how important this is. In rural Bangladesh, your status is very important. If you have been shamed in public—for instance, if somebody calls you a liar in public—it's a big deal.

Women are the custodians of a family's honor and shame. By shaming the woman, you shame the whole family. Also, women are viewed as outsiders to a family unit, because they are brought into the family through marriage. This makes them a target. When a woman has defaulted on a payment, someone associated with the bank might come inside the home and start telling her she owes money. The mother-in-law witnesses it and says, "You have shamed my family and my son by bringing these outsiders into the house." If she still doesn't pay back the loan, the techniques escalate. Sometimes she is brought in front of the whole village. It's an enormous amount of pressure. As a feminist researcher, I find it offensive.

One example I found was a young woman with four little kids whose husband

“What I've found is that the lenders will do whatever it takes to recover the money. Often their techniques involve shaming the women who are in debt.”



became very sick. She couldn't make her loan payment because he couldn't work anymore. The group of women borrowers in her village (loans are often made to a group of women together) told their loan manager that this woman could not recover the money and the manager said, "Well, what does she have?" The group found out she had a bed in her house. So the manager said, "Either you pay back her part of the loan, or take the bed and sell it." These are very poor women. They cannot pay back her part of the loan. So, they went to her house to get the bed. They could not get it through the doorway so they cut a hole in the back of the house—these houses are made of tin and straw—and took the bed out that way.

These are the kinds of hidden stories I have found, not cheerful stories of poor people becoming entrepreneurs overnight.

Q: Why are women targeted as loan recipients?

LK: When microloans first started to be given out, men were given loans. But it was harder to recover loans from men.

Men could leave. Women are more reliable because the social structure doesn't allow them to run away. If a woman defaults on her loan, the lenders can always find her. She is home. But this doesn't mean it is the woman who controls the money. She gets the money, goes home and usually turns it right over to her husband or to her son. Yet it is still the woman who is obliged to pay back the loan. Microfinance institutions are able to insert themselves into this cultural structure by targeting women as borrowers, and then manipulating the social roles of the women to make sure the loan is repaid.

Q: What would you like to see happen to the microfinance industry? Should it go away?

LK: No, I don't want microfinance to go away. It provides thousands of jobs to the middle class in developing south Asia—the loan managers. But I would like to see regulation. In the early 21st century, the industry grew very fast and millions of dollars poured in. Instead of the institutions looking at the welfare of poor people, they became market oriented. When they started measuring efficacy in terms of increased membership and number of loans disbursed—instead of whether the practices were addressing the structural conditions of poverty—the industry started to fail in its mission, and there were few or no government regulations to prevent this from happening.

The most important thing is education and teaching people new skills. You can't just give people money. Donors, philanthropists and corporations interested in helping to change the face of poverty must focus on creating jobs and creating educational opportunities that are skill oriented. People in Bangladesh and elsewhere, even if they're poor, are very smart. Give them the training and the opportunity and they will do fine over time. ■

Can We Talk?

Passionate language learners pursue their personalized vision for gaining “skills for a shrinking planet.”

By Lisa Raleigh

UO junior Dennis Tanner is a one-man multilingual phenomenon, on the path to mastery of the world’s three most prominent languages: English, Chinese and Spanish.

Spanish is a family language for Dennis; he was born in Southern California to a Mexican mother and an American father. But while his mother and grandmother spoke Spanish in the home, they did not teach it to him. He grew up speaking English only, like his dad.

When it came time to study a language in high school, the obvious choice might have been Spanish. But Dennis pursued a completely unexpected direction, choosing instead to enroll in Chinese—inspired, in part, because his father worked for a Japanese car company and this had sparked his interest in Asian culture.

Chinese turned out to be much more than a casual exploration, however: Dennis has been so thoroughly dedicated to learning the language—and has demonstrated such an exceptional talent for it—that he is now part of a selective National Security Education Program at the UO that is preparing him to achieve the highest possible skills in Chinese.

Yet he is also now exploring his heritage and studying Spanish at the UO. In fact, when he begins a year abroad at Nanjing University in China this fall, he will continue studying Spanish there.

Yes, studying Spanish in China.



AMY HARTER

Dennis Tanner, who grew up in a household where both Spanish and English were spoken, is an advanced student of Chinese. But he is now exploring his heritage and also studying Spanish.

The Language Triumvirate

It’s well known that English and Mandarin Chinese dominate the world’s linguistic scene, with more than a billion speakers each. These numbers increase every day because people around the world are seeking to improve their personal or commercial currency in a globalized world. English remains the lingua franca for a huge range of global exchanges, and Chinese is not far behind.

Consider this seemingly small fact: Tour guides in the western regions of Costa Rica are being encouraged to learn Mandarin, in large part because a new fisheries agreement between Costa Rica

and China is prompting an unprecedented influx of Chinese tourists. Multiply this by the long list of countries, large and small, where China is having an economic impact and the linguistic implications become clear.

China’s market power touches all modern economies, even regional ones like the Pacific Northwest. Oregon, for instance, exported more than \$4 billion in goods to China in 2010—a 1,277 percent increase in the last decade—making China the state’s largest export market for the second consecutive year. Clearly China is a force to be reckoned with and the language beckons those who wish to be at the top of their game internationally.

Less known perhaps is the standing of Spanish as the world’s third largest language, with half a billion speakers worldwide. By some accounts, the number of native Spanish speakers equals—or even exceeds—the number of native English speakers (approximately 400 million each). It is the third most commonly used language on the Internet, after English and Chinese.

On the Ascendancy

Like English and Chinese, Spanish is also on the ascendancy, but for very different reasons. It is primarily a hemispheric phenomenon, with the Western Hemisphere home to twenty-one of the twenty-two countries where Spanish is an official language (the twenty-second is Spain).

While Spanish has no official status in the U.S., the United States is home to the second largest Spanish-speaking population in the world, with 50 million speakers (35.5 million of them native speakers). Only Mexico tops the U.S., with 109 million total.

As the Hispanic population in the U.S. continues to grow—the U.S. Census projects it will increase to 132.8 million by 2050—so will the ranks of native speakers. At the same time, English-speaking students will continue to drive the Spanish-as-a-second-language trend.



Less known perhaps is the standing of Spanish as the world's third largest language, with half a billion speakers worldwide.

“English speakers increasingly see Spanish as part of their own culture,” said Leonardo García-Pabón, a UO Spanish professor.

Moreover, relationships between the U.S. and Latin America are becoming increasingly complex, sophisticated and interdependent, creating increased demand for Spanish-language speakers who are savvy about the finer points of Hispanic cultures and communication.

Common Ground

The UO is committed to fostering “skills for a shrinking planet.” For students wishing to master a language, the ultimate goal is a “superior level of proficiency”—meaning a full suite of communication skills that go far beyond the conversational. Proficient speakers are able to dialog in-depth on their area of expertise (business, academic, scientific and so forth) with colleagues, peers and superiors, and also express themselves at the highest professional level in writing.

Fostering proficiency for Spanish and Chinese instruction takes different forms at the UO, as the following stories will show. Spanish is a “big tent” that allows students to pursue an eclectic range of options while Chinese instruction tends to be much more precision focused—as exemplified by the UO Chinese Flagship Program, which expects students to not only master Chinese but also earn a degree in a separate subject area.

But the common ground between the two (besides the rare student like Dennis Tanner who embodies both) is the wealth of possibilities they offer for passionate language learners.

Totally Bilingual and Going Global

By Patricia Hickson

To the average American English speaker, Chinese can appear impenetrable. Its characters, sounds and semantics don't match up with the morphology of English—hence the phrase: “It's all Chinese to me!”

“Learning Chinese is really, really hard,” confirmed Denise Gigliotti, a native of China who now teaches first-year Chinese at the UO. “Ideally you practice two to three hours every single day. A student needs at least 1,000 hours of steady practice, just to talk slowly.”

Generally, Americans have little, if any, exposure to character-based languages such as Chinese, Korean or Japanese. Moreover, foreign languages of any kind aren't a strong suit of U.S. public school education. Tight budgets often mean only one or two language electives are offered at the high school level, and rarely is one of them Chinese.

As a result, “Chinese language pedagogy aimed at college freshmen usually assumes that most students are starting at zero,” said Maram Epstein, associate professor of Chinese and head of the Department of East Asian Languages and Literatures. “And that is certainly the starting point for many at the UO.”

But there are also appreciable numbers of students who arrive with advanced Chinese skills—and also those with less experience but with an exceptional drive to excel in the world's most dominant language—and for them, the UO offers a special opportunity.

Critical to National Security

Consider this confluence of resources at the UO for students who are serious about Chinese: the UO is home to the oldest East Asian Studies Program in the country as well as a vibrant Center for Asian and Pacific Studies and a new Confucius Institute. Students have ample opportunity to explore the language, history and culture of China from multiple dimensions.



MENGYU CHEN

Even though Catherine Tsang comes from a Chinese-speaking family that sent her to language classes, this was not enough to qualify her for fluent-speaker status. She is now acquiring “superior proficiency” through the Flagship program, while also majoring in biology.

Moreover, in 2005, the UO was awarded a federal contract to develop both a K–12 and an undergraduate Chinese Flagship program. Funded by the National Security Education Program, the goal of the program has been to address significant deficits in languages deemed critical to national security. Other Flagship programs focus on Arabic, Hindi-Urdu, Korean, Persian, Russian and Swahili.

“People in China, in the Middle East—they know about American diplomacy, business and research because they speak English. You can't say the same is true for the average international business person in America,” said Carl Falsgraf, director of the UO's Center for Applied Second Language Studies, which oversees the financial administration of the Chinese Flagship Program.

Currently, the UO is one of only nine university-affiliated Chinese Language Flagship programs in the country. The program unites academic content, field experience and intensive language instruction “to produce graduates with

a sophisticated level of cultural and professional proficiency,” said Falsgraf. “We want them to be able to engage in a high level of discourse on a wide variety of subjects based on their area of specialization, whether that's computer science or biology.”

To achieve such complex levels of fluency requires extraordinary commitment, passion and discipline. Students attracted to the Flagship program are academic high-performers and linguistically adept.

Before, You Had to Decide

All Flagship students major in a field other than Chinese, though they can include Chinese as a double major or as a minor. Thus, graduates leave the university possessing both fluency in Chinese and a degree in subjects ranging from economics to psychology to business.

“Before, you had to decide: ‘Am I going to do physics or Chinese language and literature?’” said Falsgraf. “With Flagship you can do both.”

Catherine Tsang is a Flagship student and a biology major. Biology all by itself is a demanding major with a highly prescribed program of study and many, many hours of lab time. Nonetheless, Tsang says she “definitely spent more time on Mandarin than biology” at the beginning of her Flagship experience.

And this despite the fact that Tsang is a “heritage” Chinese speaker, i.e., she comes from a Chinese-speaking family that sent her to language classes. But this was not enough to qualify her for fluent speaker status. “It is more complicated than that,” said Tsang. “Having never lived outside of the U.S., it took more than going to a weekend language school to develop Mandarin fluency.”

Her determination to push herself toward mastery has paid off. Last spring she was accepted to the Flagship's China program and is currently taking biology classes at Nanjing University.

Initially, the Flagship Program was tailored to students matriculating from



a K–12 Chinese immersion program like the one in Portland (also supported by the UO and funded by the NSEP award). Today, many who enter Flagship still come in with advanced Chinese speaking abilities, whether from the K–12 immersion school or from elsewhere. However, there's now greater emphasis on finding highly motivated students from all experience levels and helping them quickly prepare for the content courses that are at the heart of the Flagship program.

These are UO courses in science, journalism and urban planning—among others—taught in Chinese.

“The UO has an incredibly broad representation of faculty proficient in Chinese,” said Epstein. “As an advanced Chinese language student, you have access to course material in many subjects.” This means not only Flagship students, but also those pursuing their master's or doctoral degrees in Chinese, Asian studies or other related fields.

Among the courses offered this year will be Physics: Solar and Renewable Energy taught by Fuding Lin; Chinese Folklore taught by Dai Lan; and Human Physiology: The Sports and Medicine of China taught by Li-Shan Chou.

Capstone Year in China

Currently, fifty-four students are enrolled in Flagship, about one-third of whom are heritage speakers. Resources include an immersion residence hall, peer language tutors and immersive social events and retreats. To help students gain invaluable experience in China, they are encouraged to pursue summer intensive programs (many of them funded by grants). To become nationally certified, they must complete a capstone year in China, and there is often partial or full funding available for that.

Recent Flagship graduate Lauren Dickey completed her year at Nanjing in 2010, then returned to complete her honors thesis on China's sale of weapons to Africa in exchange for oil, which she wrote in both English and Chinese. This fall she will start a one-year master's program with the School of Oriental and African Studies at the University of London.

Dickey's path to fluency started with a high school exchange year in Taiwan. China had been her third choice of

countries when she applied for the program; her original plan was to study French at the University of Illinois (her home state). But after a year in Taiwan she was hooked on the language and the culture. Upon her return to the states she sought out opportunities to advance her newly acquired language skills and chose the UO because of the Chinese Flagship.

“I feel very confident about my plans for the future,” she said.

And she should.

The Multidimensional Challenge of Learning Chinese

At the UO, as in most Chinese language programs, students studying spoken Chinese are most likely studying Mandarin, otherwise known as Standard Chinese, the official language of the People's Republic of China and of Taiwan. “Chinese” in a more general way refers to a branch of the Sino-Tibetan family of languages. Other varieties of spoken Chinese include Wu, Cantonese and Min, each of which is spoken by millions, though Mandarin is by far the most commonly spoken variety in China and is one of the six official languages of the United Nations.

All varieties of Chinese are tonal—it is the pitch (highness or lowness of a sound) with which a word is spoken that fixes meaning. To untrained ears, tones are often difficult to distinguish and pronounce. Such complexity is amplified by the importance of word order and context. Even including tones, there are only some 1,700 syllables in Mandarin, compared to some 8,000 in English. The meaning of many spoken words in Chinese, therefore, depends on the context in which they are used. A syllable is composed of a vowel, a consonant and the tone.

But learning to speak Chinese is barely one-third of a student's battle. Unlike phonetic languages that allow practitioners to guess at pronunciation of unfamiliar written words by sounding out written syllables, spoken Chinese and written Chinese have no obvious link. “You just have to remember the character and what sound goes with it,” said Fengjun Mao, who teaches second-year Chinese.

This is no small chore given that the largest formal Chinese dictionaries include more than 50,000 characters, though the majority of these are archaic and rarely, if ever, used. Language instructors at the UO estimate knowledge of some 6,000 characters is required for reading fluency at an advanced level—which is generically estimated by a person's ability to read a newspaper. About 2,000 characters comprise the most common set. In China, if you know 800 characters or fewer, you are considered illiterate. Instructors at the UO aim to teach students approximately 500 characters over the course of each year of study.

Making the process even more complex is that there are two forms of written Chinese: traditional characters and simplified characters. Though the two are related—simplified characters were developed in the 1950s with reference to traditional characters—they are different enough that most practitioners generally develop a preference for one or the other. Traditional characters are most popular in Taiwan and Hong Kong, while mainland China generally uses simplified.

Spanish 101: The Linguistic Reality

By Patricia Hickson
and Lisa Raleigh

It's a fact that demographers, the media and personal experience have been confirming for well over a decade: Spanish is no longer a foreign language in the U.S.

According to 2009 Census Bureau data, there are 35.5 million native Spanish speakers in the U.S. and additional estimates claim there are 15 million who speak Spanish as a second language. Together, that's nearly 17 percent of the population.

This trend is not lost on the current generation of students at the UO, some 6,500 of whom enrolled in at least one Spanish class last year.

"Spanish is just something you have to know," said Kathryn George, a junior who is double majoring in Spanish and journalism. "At this point, the U.S. is a bilingual country—it's important to be able to communicate with the entire population."

Robert Davis, an associate professor of Spanish, echoes this perspective. "Spanish is the second language of the U.S. That is the linguistic reality. Students recognize this."

But the ways students study Spanish—how seriously they apply themselves, how deeply they explore it, how thoughtfully they connect it to their other interests—are as varied as the thousands of UO students enrolled in Spanish at any given moment.

To be sure, many students are merely looking to get their two-year language requirement out of the way and Spanish is often the easiest language to pursue because it's the most commonly taught language in high school.

But other students are captivated by the music and beauty of Spanish. Or they see fluency as a practical asset for future employment. Or both. And this leads them to go much further down their individual path with the language. The great news for them is that Spanish



Joel Driver (right) received his degree in Spanish last June, then picked blueberries over the summer near his hometown of Roseburg, where he spoke Spanish with immigrants from Mexico and Guatemala.

JESSE WILSON

director of the UO Latin American Studies Program, a new and rapidly growing program that explores the richness and global significance of Central and South America. Not surprisingly, many students studying Spanish have also discovered Latin American studies and are double majoring in the two fields.

In fact, one indicator of how students are complicating the vision for themselves is the large percentage of them who are majoring in both Spanish and another academic discipline.

According to Davis, of the nearly 500 Spanish majors

currently declared, more than 150 are also majoring in another subject—and these other fields run the gamut, from environmental studies to psychology to accounting to chemistry.

"To study a language is to become engaged with other places and ideas you think are interesting," said Davis. "Learning a language makes you an amateur anthropologist or ethnographer; it allows you access to the world from new perspectives."

George, the double major in Spanish and journalism, said she was inspired to master the language because her mother, a pediatric oncologist, relies on Spanish to communicate with many of her patients. "For her, it's about being able to directly reassure a patient," said George. "So many ideas and words get lost with translators." George hopes greater fluency will give her an edge in pursuing her dream job as an international journalist.

Brooke Kullberg, a Spanish and philosophy double major with a business administration minor, is particularly interested in social justice issues, including rights for Latin American immigrants and cross-border politics. "You have to know Spanish to organize with Spanish speakers," she said, "And also to collaborate and dialogue with the governments of Central and South America."

"Learning a language makes you an amateur anthropologist or ethnographer."

instruction at the UO continues to expand and evolve in ways that accommodate the specialized interests of the creatively minded student.

Those who love literature can pursue the more traditional trajectory of the Spanish language major. At the same time, there's plenty of opportunity for those who care about human rights, international trade, environmental policies and practices, arts and culture and a myriad of other aspects related to the Spanish-speaking world.

And then there's the growing cohort of students who wish to delve into their own Hispanic heritage.

Complicating the Vision

In other words, the study of Spanish at the UO is not a single, predetermined, linear pursuit.

"We are looking to complicate the vision," said Amalia Gladhart, former



But practical goals are only part of the story.

Leonardo García-Pabón, a professor of Spanish and the head of the Department of Romance Languages, believes interest in the culture of Spanish-speaking countries is also a driving factor in ever-increasing enrollment.

“More and more non-Hispanics now see Spanish as part of their own culture,” he said. “They view it as part of their home experience.”

Home Improvement

Sometimes, however, students must leave home far behind to discover a meaningful connection to Spanish.

Joel Driver, a recently graduated senior, was weary of Spanish classes by the end of his sophomore year. He’d fulfilled his general education requirements and had declared Spanish as his major, but wasn’t all that inspired to go further.

“I just felt like I couldn’t learn any more in the classroom,” he said. His discontent nearly led him to drop the subject entirely, but then he left to study in Chile his junior year. He spent six months at Universidad Austral in Valdivia and two months traveling.

He returned with a new respect for the language and a passion for the culture.

“I have a much, much more intimate relationship with the language now,” he said. “A lot of the upper-division courses are more meaningful, and I can participate and express myself, have weighty conversations.”

Like many students who leave the states to travel abroad, he also amassed new insight into the relationship between the U.S. and Latin America.

“As a country we are deeply involved in Central and South America, but there’s a lot of cultural incompetency. We have a lot of ignorance about the people we share the Western Hemisphere with,” he said, pointing to the ineffectual war on drugs as a policy failure that could benefit from a deeper understanding of Latin cultures.

Returning to Oregon with a revived interest in Latin America, Driver sought opportunities for speaking Spanish at home, and has spent the last two summers working on a blueberry farm outside of Roseburg, his hometown. There, he picks berries with immigrants from Mexico and Guatemala.

“It’s tough,” he said. “We work under the sun for long hours—but I get to hang out with really interesting people, speak Spanish and make a little money.”

Rich Connections

Demographers project that, within a decade, more than 25 percent of high school graduates in Oregon will be from Hispanic families. The UO is committed to designing curricula and programs to increasingly attract and serve these “heritage” students, and this has profound implications for Spanish-language instruction.

“We must now consider how to provide instruction in Spanish to not only English-speaking students, but to students who come with a variety of levels of Spanish skills as well as a complex relationship to their own cultural heritage,” said García-Pabón.

Traditional pedagogy assumes students have had little or no exposure to Spanish language or culture or that university instruction is simply a continuation of high school lessons. In both cases, a long-established standardized curriculum guides students through their undergraduate courses.

For heritage language students—those who grew up in a Spanish language environment, but may have had little or no formal instruction in writing or

“More and more non-Hispanics now see Spanish as part of their own culture. They view it as part of their home experience.”

reading the language—Spanish study at the UO can mean a chance to achieve college-level proficiency in the language of their parents and grandparents, as well as an opportunity to explore their ethnic history, culture and literature.

To accommodate this new type of student, as well as native English speakers who are ambitious in their pursuit of Spanish proficiency, the Department of Romance Languages has begun to offer courses where the focus is not so much on language learning as on the academic content of the course. For instance, classes in sociology, political science, anthropology and film—all taught in Spanish—have recently been offered as part of the summer curriculum.

The UO is also developing courses designed for those verbally adept in Spanish but without formal reading or writing training, as well as advanced classes that explore contemporary topics such as bilingual communities and U.S. Latino literature and culture.

“These new courses are open to any student interested in Spanish and issues of bilingualism and biculturalism,” said García-Pabón.

It all points back to the wealth of options available to students who are drawn to Spanish in support of whatever their goals might be.

“There are so many directions to go with advanced Spanish,” said Davis. Not just within the Spanish curriculum itself, but “there are so many rich connections with environmental studies, political science, international studies—and at the UO, that means social engagement.” ■



PLAYING THOSE **Mind**



Are the imaginary friends of childhood—and even adulthood—a sign of superior creativity or fantasy-reality confusion? Or both?

By Eric Tucker

A woolly mammoth nicknamed Snuffy, a stuffed tiger with a philosophical bent, Humphrey Bogart as personal confidante—imaginary friends come in all shapes, sizes and species. All of these examples happen to come from mass media (TV, comics and film), but consider the following companions, as described by real-life children:

- Rose, a female squirrel with brown fur and hazel eyes who lives in an equally imaginary house in the backyard
- Fake Rachel, an 8-year-old girl with brown hair and freckles who lives under the bed
- Elephant, a 7-inch-tall, 5-year-old female gray elephant who wears tank tops and shorts
- Sergeant Savage, a 100-year-old GI Joe doll who wears boxing gloves, has a permanent Band-Aid on his forehead and is sometimes invisible even to the child who invented him
- Robert, a black panther who lives in the jungle and first introduced himself to his human companion in a dream

Some pretend friends are invisible; others are based on toys. Some have magical powers, such as the ability to fly;

some are everyday boys and girls, with occasional mean streaks. Some have blue skin, some have pet crocodiles, some are talking animals. Yet all are composed of pure imagination.

Over the past 20 years, UO psychology professor Marjorie Taylor has gathered reams of data on pretend friends, in her exploration of the *why* of imaginary companions: Why do children create them? What purpose do they serve? Are they a sign of superior creativity or of some confusion concerning the boundary between fantasy and reality—or maybe even both? She studies the development of the imagination and the deep connections between daydreaming and creativity, in both children and adults.

Children who interact with imaginary companions have routinely been viewed as peculiar, shy or troubled, said Taylor, and this negative perspective can still apply. Some parents wonder whether their child's habit of spending time with an imaginary companion is a psychological red flag, an indication that the child is in emotional distress or is having trouble communicating with other children.

Popular culture often endorses this notion. Take a look at films in which a young, fantasy-prone character conjures

make-believe companions or gets lost in a self-made imaginary world. Consider, for instance, young Danny's diabolical invisible friend Tony in *The Shining*, or the sinister-looking, 6-foot-tall rabbit Frank in *Donnie Darko*. In these films and many others, the child who interacts with companions that only he or she can see is depicted as sad, withdrawn and in dire emotional straits—in short, in need of some serious psychological repair.

Such films typically end in one of two ways: the overly imaginative child meets an unfortunate end or makes friends with real children (often with the help of a well-meaning adult), relinquishing his or her imaginary friends and slamming the door on the lush make-believe world. The act of turning one's back on the fantastic represents a return to normalcy, to good mental health.

But according to Marjorie Taylor, that's just not true.

A four-year-old is friends with two make-believe birds, both named Nutsy, who live in a tree outside the child's bedroom window. The child describes the birds as having brightly colored feathers, standing about 12 inches tall and talking constantly. "I met them myself one day when they

Games,





accompanied the little girl to my lab,” said Taylor in her book *Imaginary Companions and the Children Who Create Them* (Oxford University Press, 1999). “I provided a chair for them, and the little girl laughed at how funny they looked as they stood on tiptoe to peer over the table at her.”

The reality, says Taylor, is that children who invent and maintain friendships with imaginary companions tend to be less shy, have an increased ability to focus their attention and display more empathy toward others than those without such companions. And this conjuring act is certainly not limited to a shy, reclusive few: In a 2004 study Taylor and colleagues discovered that 65 percent of seven-year-olds reported having had an imaginary companion at some point in their lives.

So, should parents be concerned if their kids don’t have imaginary friends? Fear not, says Taylor. “Despite some results suggesting that children with imaginary companions might be superior in intelligence, it is not true that all intelligent children create them.”

In other words, your average Calvin has the capacity to be a smart, well-adjusted child, with or without a corresponding Hobbes.

In collaboration with graduate student Deniz Tahiroglu, Taylor also studies the development of anthropomorphism—the tendency to interpret what is not human in terms of human characteristics.

To demonstrate the prevalence of anthropomorphism, Tahiroglu and Taylor show a brief video of geometric shapes—circles, squares, triangles—moving through space and sometimes interacting with each other: A triangle approaches a circle; they gently touch. To an adult observer, the act clearly conveys affection, even though the two objects are nothing more than shapes composed of pixels on a screen. They don’t even possess faces, smiley or otherwise.

The reality is that mental phenomena such as imaginary companions and anthropomorphism do not simply come to an end when childhood does. In fact, Taylor posits that the same cognitive processes that prompt children to conjure imaginary friends are also involved in

the complex relationships that develop between fiction writers and the characters that they create for their stories and novels.

“Everyone does this,” said Taylor. “Adults anthropomorphize. We interpret movement of machines in terms of human beings. The question is: when—and why—does a child start doing this?”

A five-year-old girl began creating fantasies about dolphins when she was two years old. She would pretend to hold the miniature dolphins in her hands and give them to family members. After her parents gave her a small gray plush dolphin, the child invented an imaginary dolphin friend named Dipper. When Taylor asked the child to describe Dipper, she did not list the physical attributes of her toy but instead described her friend as being the size of a door, having sparkles and living on a star.

What prompts children to invent pretend friends? The primary reason, said Taylor, is that pretend friends provide tireless, on-the-spot fun and companionship. Often imaginary playmates will share a child’s interests and hobbies. They also provide an outlet for a child’s emotions, serve as proxies for communicating information to parents and play the role of fall guy when a child does something wrong.

Far from causing social or emotional problems, pretend friends can often help children deal with their fears and anxieties. For example, some children invent imaginary companions who are afraid of the dark, and the act of comforting their companions may help these children conquer their own fear. In fact, after looking at the data and considering her own experiences as a parent, Taylor began to wonder whether pretend friends confer upon their human companions more advantages than anyone ever suspected.

In other words, a dependable Hobbes can offer the average Calvin much more than witty banter and a stationary snowball target.

A three-year-old girl had developed a powerful fear of ghosts. The child was presented with a small box said to contain a “baby ghost” and was asked whether she wanted to take care of it. The child said yes and carried the box around with her for over a week, absorbed by the needs of her newfound, imaginary ward. Although she eventually abandoned the box for other toys, she was never again troubled by her fear of ghosts.

Taylor, along with Annmarie Hulette and Tom Dishion, conducted a long-term study of 152 ethnically diverse, high-risk children living in Portland. The children were interviewed at age 12 and again at age 18. Just under 10 percent (13 children) had imaginary companions at age 12. “Are imaginary companions a red flag down the road or a source of resilience?” asked Taylor and her colleagues, in a paper published last year in the journal *Developmental Psychology*.

In the study, a child’s outcome was considered healthy if the individual graduated from high school, had no run-ins with the police, was not using illegal drugs and had not received a diagnosis of a psychological disorder. The conclusion? The 12-year-olds with imaginary companions had, on average, better outcomes as 18-year-olds than did their counterparts who enjoyed only flesh-and-blood friendships.

Another project, conducted in concert with the Oregon Social Learning Center and the Center for Research to Practice, is looking at foster care children who have been forced to move frequently from school to school. With graduate students Naomi Aguiar and Candice Mottweiler, Taylor is exploring the extent to which interactions with imaginary friends may be helpful to this socioeconomically disadvantaged group. “Some of these children created imaginary worlds, places of plenty,” she said. While the researchers’ analysis is yet to be completed, “We





Just My Imagination (Running Away With Me)

Imaginary friends are a familiar fictional device, as demonstrated by these examples from popular culture:

The tiger Hobbes, in *Calvin & Hobbes* (comic strip)

The toy bunny, in *The Velveteen Rabbit* (book)

The invisible rabbit, in *Harvey* (film and play)

Humphrey Bogart, in *Play It Again, Sam* (play and film)

Frank (a man dressed as a grotesque rabbit), in *Donnie Darko* (film)

The Great Gazoo, in *The Flintstones* (TV)

Snuffleupagus, in *Sesame Street* (TV)

Citizens of the Neighborhood of Make-Believe, in *Mr. Rogers' Neighborhood* (TV)

Danny's friend Tony, in *The Shining* (film)

Wilson the volleyball, in *Castaway* (film)

Tyler Durden, in *Fight Club* (film and novel)

Fred, in *Drop Dead Fred* (film)

Captain Howdy, in *The Exorcist* (film)

are interested in finding out if their interactions with pretend friends improved their resilience and ability to cope in high-risk situations.”

A parent learned that her son had an imaginary playmate named Nobby, whom the parent thought was a little boy. But when she asked her son how often he played with Nobby, he replied, “I don't play with him.” Nobby turned out to be a 160-year-old businessman who visited the child between business trips to Portland and Seattle, whenever the child needed someone to talk to. “The boy's mother was as surprised as we were,” said Taylor.

Evidence for the remarkable plasticity of children's brains—their ability to summon pretend friends, for instance, as well as a gift for language acquisition—has spawned a cottage industry of products designed to boost Junior's brainpower. But the notion that the impressionable minds of young children can benefit from frequent exposure to such multimedia educational products as the Baby Einstein series is “misguided,” said Taylor. “There is a tendency among parents to use media as an electronic babysitter, but unstructured playtime is important,” she said.

There are no such electronic diversions in the Imagination Lab, a creativity-inspiring workspace littered with crayons, toys and construction paper, where Taylor and her graduate students interview three- to five-year-olds about their imaginary companions. The researchers use this space to investigate how fictional situations promote social understanding, and how this translates to real-world people and

situations. They also have devised innovative methods for measuring creativity, such as presenting children with the beginning of a fictional story and instructing them to finish it. Some of the children Taylor has studied have demonstrated a remarkable ability to conjure whole imaginary worlds, complete with unusual flora and fauna, a bustling population and even an entirely made-up language.

Taylor, also the editor of *The Development of Imagination* (Oxford University Press, to be published in 2012), said she and graduate student Alison Shawber-Sachet were surprised to discover that children's imaginary friends are far from perfect.

“Children would say things like ‘She's mean,’ or ‘She won't go away’ or ‘She keeps bossing me around.’ The common denominator was their uncontrollability.”

With UO colleagues Sara Hodges and Adele Kohanyi, Taylor noticed some of these same qualities when she interviewed fiction writers about their literary creations. “Fiction writers talk about battling with their characters. They say things like, ‘It was the character's idea. I could have never come up with something like that.’ This is an illustration of individual agency.”

She employs a rather broad definition of imagination in her work. Most people, she said, consider only the rarefied inspiration of artistic ability—the domain of painters, photographers, writers and the like. But she thinks of imagination as the simple capacity to transcend time, place or circumstance. It involves planning for the future and reliving the past; in other words, we use our imaginations whenever

we make a shopping list or recall our favorite song.

“It's mental time travel,” she said. “It's ubiquitous in the way people think.”

Creativity, a subset of the imagination, encompasses the fiction-loving moments of our lives, from idle daydreaming to active storytelling—activities we engage in every day. In fact, we spend significant chunks of our lives in the realm of fiction: we read novels, watch films and plays, and fantasize about what we will do when we inevitably win the Oregon Lottery.

In terms of the impact of these activities, “there is no cut-and-dried distinction between what is real and what is imaginary,” said Taylor. “What's fictional can elicit real emotion.”

And therein lies the cornerstone of empathy, said Taylor. Empathy is what allows us to picture ourselves in another's shoes, to understand another's pain, to see the commonalities in one another instead of only the differences.

As the planet's population continues to expand—potentially exceeding 10 billion by the year 2100 (not counting imaginary friends)—the demand for empathetic response becomes ever more complex. Imagination, therefore, is no mere time waster. It allows us to plan for the future, to foresee crises and devise ways to be prepared.

Or not—as illustrated several years ago by an imaginative little boy and his pretend friend:

Calvin: You can't just turn on creativity like a faucet. You have to be in the right mood.

Hobbes: What mood is that?

Calvin: Last-minute panic. ■

Cultural Preservation By Digitization

A UO Professor Teams With a Yemeni Nonprofit to Save a Threatened Legacy



DAVID HOLLENBERG

More than 10,000 Yemeni manuscripts have disappeared over the last 10 years, many of them destroyed by extremists opposed to Zaydi-Shiism and its intellectual heritage.

Last December, Ahmed Ishaq, executive director of a small nonprofit organization in Yemen, and two of his volunteer digitization technicians, disembarked from their plane at the Berlin international airport. The three men, who had never traveled outside Yemen, much less to a Western country, were on a mission: learn to use the most advanced digitization equipment available and return to Yemen to digitize the manuscripts of three private libraries.

For David Hollenberg, a UO professor of Arabic and religious studies, the Berlin visit marked the beginning of what he hopes will be a comprehensive effort to preserve one of the world's largest and most important collections of Arabic manuscripts. Hollenberg is the founder and director of the Yemeni Manuscript Digitization Initiative (YMDI), the program that made this trip possible.

While manuscript digitization may sound like a dry administrative project, it is actually, like so many library-related movements, politically charged.

Hollenberg estimates more than 10,000 manuscripts, mostly from the Zaydi-Shii tradition in northern Yemen, have disappeared over the last 10 years. While Yemen's challenging economic,

political and social crises have contributed to the sale of private collections, many manuscripts have been destroyed by Salafi extremists opposed to Zaydi-Shiism and its intellectual heritage.

"This is about preserving an entire cultural and intellectual history that is in peril," said Hollenberg, who estimates that Yemen's current instability poses an unprecedented threat to Yemeni manuscripts. "If YMDI is not successful, an intellectual and literary heritage more than a thousand years old could be destroyed in a single generation."

Unlike mass-produced printed books, Arabic manuscripts are handwritten. In libraries throughout the Middle East and Europe, thousands of classical Arabic works of science, literature, law, theology and grammar exist only in manuscript form.

Yemen's collection of such books is especially rich. The country contains at least 6,000 private libraries possessing some 50,000 manuscripts, including some of the earliest Qur'an fragments and theological treatises ever discovered. Many of these sources do not exist outside of Yemen. When manuscripts are destroyed, the intellectual and literary loss can never be recovered.

Hollenberg had long been aware of the risk to the books but hadn't encountered a solution until 2007 when, on a trip to Yemen as a visiting scholar, he encountered Ahmed Ishaq's nonprofit organization, the Imam Zayd ibn 'Ali Cultural Foundation (IZBACF).

He was impressed to find IZBACF a highly efficient group that had already digitized more than 6,000 original manuscripts, while outfitted with only a few pieces of used digitization equipment and an almost entirely volunteer staff. "They work with the zeal of individuals desperately attempting to preserve their heritage in the face of its erasure," said Hollenberg.

Despite the political tensions that can complicate collaborations between American and Islamic organizations in the Middle East, Hollenberg found the staff open and willing to accept his interest in furthering their efforts. "The trust they have shown us is remarkable, given their embattled position in the world and within their own society," he said.

Hollenberg sought and received funding from the National Endowment for the Humanities to team with IZBACF as well as Princeton University Library and Freie University, Berlin, both of which provided equipment and resources for the digitization effort. Thus began the Yemeni Manuscript Digitization Initiative, an international collective of scholars and librarians hosted by the University of Oregon (ymdi.uoregon.edu).

In January, Ahmed Ishaq and his colleagues, AbdulRahman Alneamy and Abdullah alWajih, returned to Yemen with archive quality digitization equipment on loan from Freie University. In short order, they successfully digitized several manuscripts and mailed the first installment to Princeton Library for inclusion in its digital archives (diglib.princeton.edu), which are available to the public. Hollenberg hopes the digitization of thousands more manuscripts—and the establishment of Yemen's own digital manuscript library—will follow. —PH

Alumna Wins Dylan Thomas Prize



Elyse Fenton flew to Wales late last year to accept the 2010 Dylan Thomas Prize, a £30,000 (\$47,000) award for English language literature given by the University of Wales to a writer under 30.

Fenton won for *Clamor*, a book of poems she worked on as an MFA student in the UO Creative Writing Program—at the same time that her husband was serving with the U.S. military as a doctor in Iraq.

Her collection explores themes of love and war, inspired by fragments of instant messaging conversations Fenton shared with her deployed husband. Her work has been praised for elegantly weaving the brutality of warfare with the quiet solitude of longing, loss and uncertainty. Peter Florence, chair of the Dylan Thomas Prize judges, described Fenton’s book as “an astonishing, fully accomplished book of huge ambition and spectacular delivery.”

Clamor is the first book of poetry to have won the prize since the award was established in 2004. Fenton has published other pieces on the same theme including “My Deployment as a War Bride,” an essay in the *New York Times* in 2008.

Welsh author Dylan Thomas is best known for his poetry, about half of which he published before he was 20. He died in 1953 at the age of 39. —PH

Left: Elyse Fenton was part of the original cast of Telling, a theater project through which actors—many of them affiliated with the UO—tell their first-person stories related to the wars in Iraq and Afghanistan. Here, Fenton performs on Veterans Day 2010 in Washington, D.C.

French Spoken Here

Brian Barnett recently conducted an informal experiment with his second-year French students. Their assignment: “Write down the first 10 things that come to mind when you think about the word French.”

Students dutifully complied: “Eiffel Tower, baguettes, cheese, perfume. . . .” When Barnett collected the answers he noticed a gaping omission.

“They mostly listed items associated with France—not with the broader Francophone-speaking world,” he said. “It’s a common American reaction to think only of France.”

French is in fact a significant global language spoken by cultures on every continent—including large communities in the U.S. For instance, according to the 2000 U.S. Census, approximately 190,000 people in Louisiana reported speaking French at home.

For more than 200 years leading up to the mid-1900s, French was the international language of diplomacy,



consistent with France’s prominent position as a global presence occupying parts of Africa, the South Pacific and the Americas. As English has replaced French as the dominant international language, interest in French as a second language has swiftly declined, especially in the U.S. where Spanish has become the most studied foreign language in high schools and colleges.

Therefore Barnett, a new addition to the Department of Romance Languages faculty, is on a mission to remind students of the relevance and cultural contributions of French to the Americas. His research and teaching interests are

focused especially on the Francophone communities in Louisiana, the Caribbean, Quebec and Maritime Canada (Acadia).

In addition to Louisiana, there are other large French-speaking populations elsewhere in the U.S., particularly the Franco-Americans in New England and Florida (the latter with a Haitian influence), Barnett says.

Though each Francophone community on the American continent shares a common language, the unique cultures of each location have created vibrant dialects to study and celebrate. To Barnett, such communities are an opportunity to expose students to a more complete picture of where French was (and is currently) spoken closer to home, as well as introduce students to linguistic variation.

“There are a variety of French dialects, just as there are of English or of any other language,” said Barnett. “One particular variety is not superior to another—we’re just most familiar with the dialect spoken in Europe. Recognizing that each Francophone region carries with it cultural and historical significance is part of becoming truly bilingual in French.” —PH

The Slave Rebellion That Founded a Nation

For months following the 2010 catastrophic Haiti earthquake, striking images of the quake's destruction and the suffering of the country's people became familiar footage on U.S. nightly news.

"Since the earthquake, the only discourse you hear about the island is poverty," said Fabienne Moore, an associate professor of French.

Last year Moore, along with Tania Triana, an assistant professor of Spanish, set out to change that discourse by reminding the UO community of the historical, political and cultural significance of Haiti's existence—an existence that began with one of the most important revolutions in recent world history.

The Haitian Revolution pitted slaves and other black Haitians against French colonists, including slave plantation masters, in a battle that lasted more than 10 years. When Haiti declared itself a free republic in 1804 (61 years prior to the abolition of slavery in the U.S.), it became the first postcolonial black-led nation in the world, and the only nation to gain independence as part of a successful slave rebellion.

Despite its dramatic importance to the history of human equality, the revolution



General François-Dominique Toussaint Louverture was a former slave who became the leader of the Haitian Revolution. Under his leadership, Haiti became the first postcolonial black-led nation in the world.

is not much studied in the U.S., or in Europe—not even in France.

"From the French perspective, it is a revolution of defeat," said Moore.

The concepts of equality and liberty emerging as part of the French Revolution of 1789 influenced Haiti's own revolution. Yet the Haitian Revolution's

radical challenge to slavery, racism and colonialism realized the principle of human emancipation in ways the French had not necessarily anticipated.

Last winter and spring, Moore and Triana organized a series of on-campus events featuring novelists, playwrights, performers and films focused on Haiti in an effort to educate UO students and faculty members about the revolution and its repercussions.

Among the guests were novelist Myriam J.A. Chancy, the author of *Spirit of Haiti*, and scholars Sara E. Johnson and Jana Evans Braziel, who spoke of visual and performance culture in 19th-century and contemporary Haiti.

Moore and Triana also taught a new course, *The Cultural Legacies of the Haitian Revolution*, the first class at the UO to focus on this topic.

"The Haitian Revolution is a defining moment in the history of freedom and equality," said Moore. "Part of our intention has been to get people thinking about why this important moment was silenced, why this history has been marginalized—and where else this silencing may have happened." —PH

Grounds for Resistance

A new documentary by a UO professor offers a poignant study of the lives of men and women struggling with their experiences of war in Iraq and Afghanistan, in an exploration of their politics and their complex feelings about their time in military service.

The film, called *Grounds for Resistance*, tells the story of Coffee Strong, a G.I.-run nonprofit coffeehouse near the gates of the U.S. Army base at Fort Lewis, Washington. The film was produced by Lisa Gilman, an associate professor of folklore and English at the UO, who visited the café while conducting research on active-duty service personnel and the

music they listen to while deployed (see fall 2010 *Cascade*).

While she had never produced a full-length documentary, Gilman decided Coffee Strong would be the ideal subject for her directorial debut because "what they were doing was so compelling," she said.

Coffee Strong was started in 2008 by a small group of young war veterans, whose experiences in Iraq and Afghanistan motivated their interest in creating a safe social gathering place for soldiers, veterans, and military families—especially those with disaffected views of the military and those looking for help assimilating to

life outside the combat zone. The shop was inspired by the Vietnam-era G.I. coffeehouse movement.

At Coffee Strong, soldiers and veterans find counseling and resources for issues such as posttraumatic stress disorder, military sexual trauma, discrimination, re-entry into civilian life, stop-loss redeployment, and medical and legal problems. Services also include counseling for those seeking options for leaving the military early.

For soldiers and veterans, coffee is free.

Gilman made the 50-minute movie on the shoestring budget of \$10,000. It premiered May 14 in Olympia, Washington, and has since been screened on campus and at the Bijou Art Cinemas in Eugene; at the Clinton Street Theater

West Coast Speech

Challenging the Myth of the “Broadcast Standard” Dialect

A common perception about language is that we are losing regional dialects—those variations of dropped Rs or twangy vowels that distinguish populations as being distinctly “Boston” or “Wisconsin” or “South Texas.”

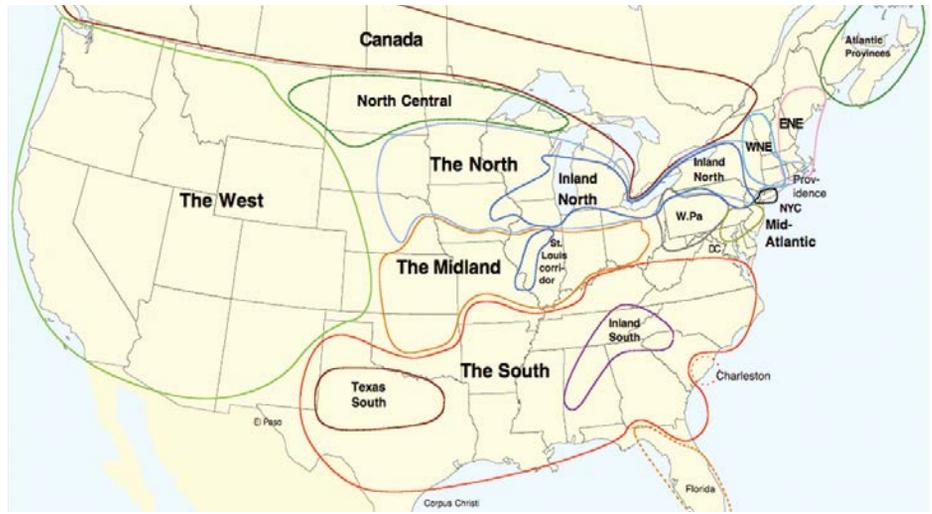
After all, with increased mobility, national television and the Internet, our exposure to each other and to mass culture in general has been increasing for decades. Surely, we are all moving toward a norm where everyone sounds essentially like Brian Williams of NBC Nightly News.

But Tyler Kendall, an assistant professor of linguistics at the UO, challenges this assumption.

“It is counterintuitive, but at a national level we are not actually speaking more alike. Regional differences are becoming more pronounced,” he said. By regional, Kendall means the linguistic definition given to large swaths of U.S. territory, such as the mid-Atlantic, the South or the Midlands.

Kendall believes this phenomenon, like all language-change phenomena, has social and psychological origins.

“People are partial to where they are from, and they usually want to fit in with



FROM THE ATLAS OF NORTH-AMERICAN ENGLISH (DE GRUYTER, 2005)

Linguists divide the U.S. into dialect regions, with the western states lumped together as a single region that has no official dialect and (supposedly) no differentiation among states. But Tyler Kendall is researching the possibility of distinct dialects in Oregon.

the local population. This orientation influences our speech patterns. What start out as subtle psychological nuances in word choice and sound eventually affect our dialect, changing it over time,” he said.

By listening to vowel shifts around the country, linguists are now concluding that many regional speech varieties are becoming more audibly distinct.

This trend has been particularly well studied in the inland North, a region linguists define as the lower peninsula of Michigan, northern Ohio and Indiana, the suburbs of Chicago, part of eastern Wisconsin and upstate New York.

“The English spoken by people in Chicago and the cities in the inland North generally sounds less like the English spoken in, say, Nevada today than it did even fifty years ago,” he said.

The studies have also shown change in dialect is happening much faster than linguists anticipated. “We are noticing sound shifts in language in a generation or less,” said Kendall.

With these trends in mind, Kendall is now turning his scholarly eye to Oregon.

“The assumption by many people is that Oregon, like the rest of the West, speaks an unmarked dialect,” he said. Otherwise known as a “broadcast

standard” (the standard broadcasters like Brian Williams are trained to emulate), an unmarked dialect is one that defies attachment to a particular locality.

But Kendall thinks there may be more variation in the West—a territory linguists describe as the states west of and around the Rocky Mountains—than currently recognized.

A recent arrival from the East Coast, Kendall considers himself lucky to have landed in an area not much linguistically explored. He estimates there are only a handful of sociolinguists working in the Pacific Northwest, including himself.

As an informal first step toward building what he hopes will be a repository of recordings for formal analysis, Kendall has been recruiting students to record interviews with native Oregonian speakers. Each student then performs an acoustic analysis, transcribing the recording and using linguistic software to measure features of speech that might mark it as distinct, such as the acoustic characteristics of certain vowel sounds.

“We now know that language change is happening constantly and quite rapidly,” said Kendall. “What better way to study those changes than in the little-investigated area of our own backyard?” —PH



in Portland; and at the 2011 national Iraq Veterans Against the War and Veterans for Peace conventions in August.

Future screenings are planned for Oklahoma, Vermont, Wisconsin and the 2011 annual meeting of the American Folklore Society. Gilman also plans to submit the documentary to film festivals.

For more information, visit www.groundsforresistance.com. —PH

Trudy Cameron and Richard York are both core faculty members in the Environmental Studies Program. But they each approach the mission of the program—to train leaders in creative problem solving, critical thinking and responsible citizenship—from very different perspectives. Cameron, whose home department is economics, seeks to apply traditional neoclassical theory to complex environmental problems, while York, whose home department is sociology, challenges us to question the consumption patterns that drive our society's economic model.

The Neoclassical Dilemma: How to Quantify 'Priceless'

Environmentalists have long **decried traditional economics** as the root of many of our environmental problems, from air pollution to urban sprawl.

Complaints stem from the basic observation that many qualities of the world don't translate neatly into dollars and cents. What's the monetary value, for instance, of a beautiful view or open space within walking distance from your house? Similarly, while we account for the money

derived from the sale of lumber after a timber harvest, we don't often calculate the costs of watershed damage caused by certain tree-cutting practices.

The difficulty in quantifying the value of such variables—and the fact that there are many unaccounted-for spillover effects from economic activity—leads to market failure: the inability of the market to accurately account for all the costs and benefits of an action. It's a big part of the reason, some say, why we end up with

ugly skylines, car-centric neighborhoods and polluted waterways.

Environmentalists associate market failure with popular economic practices for three reasons: the market generally fails to account for the costs of pollution, fails to represent the value of public goods (such as alternative transit or clean air) and assumes that decision-makers have complete knowledge about the costs and benefits of every action.

Trudy Cameron, who holds the prestigious Raymond F. Mikesell Professorship in Environmental and Resource Economics, substantiates these critiques. But she stops short of blaming the problem on economic theory itself.

Certainly economic models are not

The Technology Skeptic: When Less is More

Richard York does not believe **alternative energy** is the answer to our current oil energy crisis. Nor does he advocate for improved energy efficiency or more vehicle miles to the gallon. Nonetheless, York describes himself as an environmental sociologist.

But there is no paradox to York's position. His work is motivated by deep environmental concerns, it's just that he doesn't believe advancements in technology are going to solve our problems—and he has the numbers to prove it.

York's primary area of research involves compiling large quantities of data and running statistical queries. He studies national trends to explore the connection between energy intensity (the amount of

energy required to produce a dollar of product) and energy consumption. For instance, he has examined the relationship between automobile fuel efficiency and total fuel consumption.

Certainly, engines today now run further on less gas, thanks to decades of slow progress. Unfortunately, says York, this hasn't reduced our use of fossil fuels for personal transportation.

"In the case of the automobile, there are basically three culprits. First, we use technological improvements in engine efficiency to make cars bigger, not get better mileage; second we have more cars; and third we drive those cars more. The combination makes our total fuel consumption higher today than in the past."

York sees the efficient car as one way of avoiding the bigger problem: our vehicle dependent society. He says improved fuel economy is a good example of how efficiency often works to make consumption more attractive because it makes it less expensive.

To the dismay of technological optimists, this phenomenon applies across the spectrum of energy technologies York studies. The more energy we create, the more we use.

York's research builds on a proposition called the Jevons paradox, named after an English economist of the mid-nineteenth century who observed that an increase in the efficiency of coal use led to an increase of coal consumption.

Aside from the energy efficiency paradox, York has also compiled evidence that technological advances heralded as solutions to problems, from deforestation to water pollution, simply end up substituting a new problem for the old, sometimes never resolving the old problem along the way.

accounting for all the costs and benefits that are important to us as a society, she says, but that doesn't mean neoclassical economic theory is flawed; it only indicates a need to improve our analysis in order to track those qualities—like clean water or access to open space—that have value but aren't being measured.

"The idea is to think about things we value, like risk reduction or free time or access to recreational sites, just like any other thing we might buy," she said. Her research is focused on developing strategies to infer the values people place on such qualities.

Most recently she published a study with Brian Vander Naald, exploring our willingness to pay for the well-being of an edible species (not just to prevent their deaths)—a theory she tested through a survey designed to determine the extent to which people would be willing to pay more for chicken breasts from a humanely raised bird compared to a conventionally raised one. (Controlling for differences in perceived taste and healthiness, she found people are willing to pay slightly more for the better-treated chicken.)



Cameron recognizes people have a natural resistance to assigning a monetary value to qualities many would consider "priceless," but she also believes that when it comes to making difficult policy decisions, careful benefit-cost analysis has a vital role.

"We don't have the resources to reduce all risks, or to protect all environments," she reasons. "We have to make decisions." She describes economics as allocation science, an attempt to systematically reveal the assumptions behind decisions.

And she doesn't see a better alternative. "At the end of the day, it comes down

to letting special-interest groups hash it out—or conducting a thorough benefit-cost analysis to the best of our ability."

Cameron hopes developing tools to assess how society values nonmarket qualities will provide us with greater clarity when considering tradeoffs associated with market control mechanisms, such as environmental regulations and taxes. She suspects many current regulations don't accurately represent societal preferences.

"Some regulations are too relaxed, others are too harsh. But to really make that judgment call, we need to ask: Are we getting the best outcome for society from our limited resources of time, labor, land and money? Maybe we are spending 10 million dollars on reducing some toxin in the environment and we could be better spending that money on food for poor children. Economic theory is about evaluating where and why we are allocating our funding."

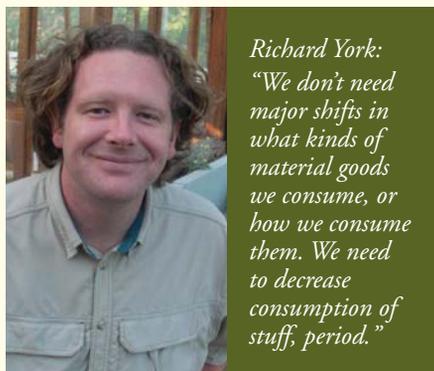
In addition to her scholarship, Cameron has served as chair of the U.S. Environmental Protection Agency Advisory Council on Clean Air Compliance and on other national boards. —PH

Take paper consumption. With the advent of electronic media for storing data, many proclaimed it was the dawn of a paperless society. Not true, says York, who points to studies that show paper consumption has increased, especially with the introduction of e-mail.

"With e-mail, you get vastly more written messages a day than you did before," he says. "Even if you don't print all of your messages, you may print some. In this way we're producing paper junk we never before even had the ability to create. And not only are we consuming more paper, we're also consuming more energy. Mass storage doesn't run on nothing; it takes a lot of power to keep servers going."

The same is true of our energy history overall. From biomass to fossil fuels to nuclear power, each advance in energy production has come with its own environmental and social troubles.

Of course, there are contrary examples. Airborne lead and particulate matter have



decreased significantly in affluent nations with improved emissions technology. Arguably, their reduction hasn't meant an increase in any other kind of atmospheric pollution.

But York stresses these are exceptions and he focuses instead on the structure of our economy as the key to real progress.

"Mainstream economics is obsessed with the endless growth of GDP. This creates a condition where everyone wants to believe that the way out of our

environmental mess is through inventing some new way to consume more but do less harm."

The solution, he says, is a societal reorientation in our thinking about what we are trying to get out of life—including what constitutes happiness and wealth.

"We have come to expect that the world is about expanding production and consumption, but a lot of work in sociology shows this doesn't make our lives a lot better," says York. "We don't need major shifts in what kinds of material goods we consume, or how we consume them. We need to decrease consumption of stuff, period."

York is coeditor of the journal *Organization and Environment* and has published more than fifty articles, essays and reviews. He has twice (2004 and 2007) received the Outstanding Publication Award from the Environment and Technology Section of the American Sociological Association. —PH

Brown v. Board of Education: The Untold Story



PHOTO COURTESY: BROWN V. BOARD OF EDUCATION NATIONAL HISTORIC SITE

Topeka's African American teachers in 1949. "Many black Topekans wanted to preserve all-black schools," says Charise Cheney.

Charise Cheney was born and raised in Topeka, Kansas, the city that came to symbolize the desegregation movement because of a lawsuit that challenged the school district's policy of racial segregation, and then went all the way to the Supreme Court.

But Cheney was surprised to learn that African American support for desegregation in 1950s-era Topeka was not nearly as widespread as she had thought.

So surprised, in fact, that she has decided to write a book about the on-the-ground reality in her hometown during the early days of the civil rights movement.

Cheney's project will shed light on the little-known anti-integrationist movement among African Americans in Topeka prior to the landmark 1954 *Brown v. Board of Education* Supreme Court decision, which outlawed racial segregation in public schools across the land.

"Many black Topekans wanted to preserve all-black schools because they were relatively equal to all-white schools and because they fostered a familial and nurturing learning environment for black children," said Cheney, associate professor of ethnic studies.

Cheney's project will shed light on a little-known anti-integrationist movement among African Americans.

Topeka became a poster child for the desegregation movement because of *Brown*, she said, but the truth is more complicated than any textbook-style overview could reveal. For instance, "Resistance to the NAACP was also very strong in Topeka's black community at the time," she said.

Cheney anticipates that the book will be in print in plenty of time for the sixtieth anniversary of the *Brown* decision in 2014.

Cheney, who joined the UO ethnic studies faculty in 2010, likes to challenge students to question their own political views and to consider both the privileges they enjoy as university students and the social responsibilities attached to those privileges.

In the classroom, she likes to use a comparative approach to examine the evolution of race and racism in the

United States. "I love teaching from an interdisciplinary, multivocal perspective," she said. "African American history becomes more textured and nuanced when juxtaposed against the histories of indigenous peoples, Latinos and Asian Americans."

Cheney has taught a number of ethnic studies courses at the UO, including Critical Race Theory and Hip-Hop Poetics and Politics. Another course—Critical Whiteness Studies—examines the social construction of race by delving into the history of "whiteness" as a racial category in the United States. Next spring, she is teaching a course titled Modern Civil Rights Movement, which looks at how scholars have framed the civil rights movement of the 1950s and 1960s and examines trends in historical writings.

"Scholarship challenges us to rethink how we see the civil rights movement as a historical moment," she said.

Cheney is also the author of *Brothers Gonna Work It Out: Sexual Politics in the Golden Age of Rap Nationalism* (New York University Press, 2005), an exploration of black nationalism and hip-hop culture.

—ET

What Opera Can Do For History

In 1972, Air Force One touched down on the tarmac in Beijing, China, and President Richard Nixon was soon famously photographed shaking hands with Chairman Mao Zedong, the authoritarian leader and founding father of the People's Republic of China.

The moment is memorialized because it marked the first diplomatic acknowledgement of China by the United States since Mao took control of the country in 1949.

Communication between the leaders of the two countries had been so limited for so long that arrangements for the president's visit were made via notes through intermediaries in Pakistan.

This February marks the fortieth anniversary of Nixon's visit, and Bryna Goodman, professor of Chinese history, is taking the opportunity to highlight the historic occasion—as well as the whirlwind of change that has recently transformed China—through a series of events at the UO campus.

The centerpiece will be the opera by composer John Adams and librettist Alice Goodman, *Nixon in China*. A Peter Sellars production that originally premiered in 1987, the opera was recently revived across the U.S., including a New York Metropolitan Opera debut. The

Eugene Opera will stage it on March 16 and 18, 2012, at the Hult Center for the Performing Arts in Eugene.

Opera is well known for the telling of dramatic stories and legends from ancient history. *Nixon in China*, which focuses on contemporary history, deviates from fiction and myth, but not, said Goodman, from other signature operatic characteristics.

"The cast of characters associated with Nixon's visit to China is as bizarre and outsized as anything in more traditional opera," Goodman said. "Nixon was a grandiose personality—half tragic, half brilliant—and Mao was a revolutionary leader with an incredibly complicated personal and political life."

The roles of political mastermind Henry Kissinger and Mao's wife, the much-demonized Madame Mao, also add to the production's surreal quality.

UO students will be able to take a special course in winter 2012—What Opera Can Do for History: Nixon in China in History and Onstage—thanks to funding from the Coleman-Guitteau Fellowship.

Other events during February and March include high-profile guest speakers such as Nicholas Platt, a member of the diplomatic entourage that accompanied



Nixon's historic meeting with Mao was the inspiration for the surreal opera, Nixon in China, to be performed next March at the Hult Center in Eugene.

Nixon on his diplomatic mission; Garrick Utley, former NBC news anchor; and impresario Peter Sellars himself.

The Jordan Schnitzer Museum of Art is also planning an exhibit, *Forty Years of U.S.-China Relations and Nixon in China*.

"The contrast between China under Mao and China now—it's such a dramatic change. This is an opportunity to rethink and revisit that history," said Goodman. —PH



KATIE CAMPBELL

Three's a Charm for Corazon Aquino Tree



This unassuming maple outside Peterson Hall has a complicated history. It was planted last year in memory of Corazon Aquino, the heroine of the People Power Movement that toppled Philippine dictator Ferdinand Marcos in 1986.

In fact, this is the third such tree planted on campus in her honor; the first two perished in their location close to Collier House.

Last April, history professor Glenn May wrote a commentary for *The Register-Guard* describing his role in persuading Aquino to come to campus in 1995 to deliver the commencement address and receive the first honorary degree conferred by the University of Oregon in fifty years, at which time the first tree was planted. He then goes on to detail "the saga of the Cory tree," as he calls it. Read a reprint of Professor May's article in Online Extras at cascade.uoregon.edu. —LR

Solar System

Capturing Sunlight With Artificial Leaves to Produce Hydrogen Fuel

Why drill for fossil fuels when an enormous, self-sustaining energy source is right over our heads?

Green plants figured this out eons ago. We humans are just beginning to catch up.

Taking a cue from the Earth's abundant plant life, UO chemist Shannon Boettcher is working on a method for using water to store energy from the sun. Given humanity's growing energy demands, the looming threat of global warming and concerns over the safety of nuclear power, clean solar fuel is quickly gaining adherents.

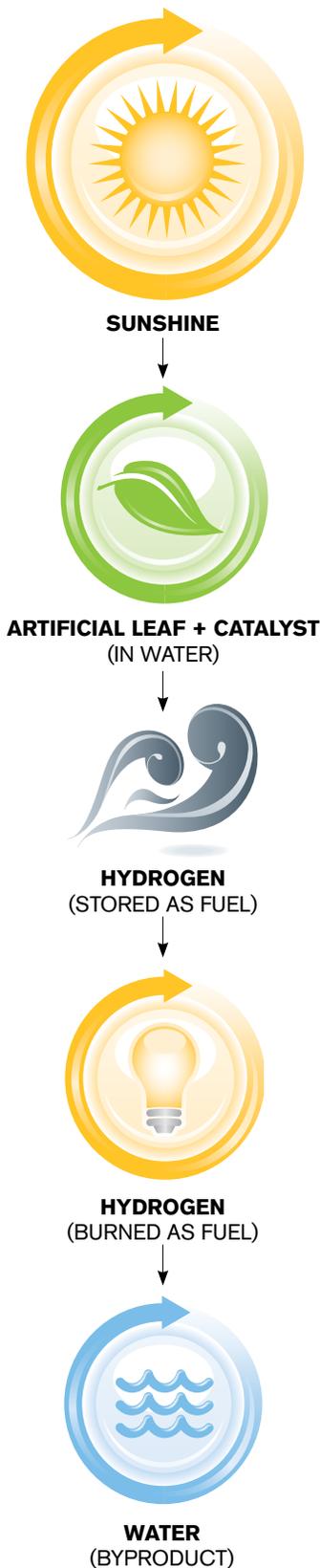
His work could have tremendous implications for the future of global energy production. What's so startling is how clean the production of solar fuel can be: Sunlight is absorbed by a submerged semiconductor film, locally generating electrical energy; this energy, with help from a chemical catalyst, then splits water adjacent to the film into oxygen and hydrogen. The oxygen can be vented into the atmosphere, and the hydrogen can be stored for use as a fuel.

And the byproduct of burning hydrogen fuel? Water.

"The idea is to use the energy in sunlight to split water into hydrogen and oxygen," said Boettcher, an assistant professor of inorganic and materials chemistry and a signature researcher with the Oregon Nanoscience and Microtechnologies Institute. "This is a way to store the energy from sunlight in a chemical fuel, much like plants do using photosynthesis."

In photosynthesis, chlorophyll captures sunlight and uses it to split water in a plant's leaves into oxygen and hydrogen ions; the hydrogen ions combine with electrons and carbon dioxide to form sugar. The energy of the reaction is stored in the sugar's chemical bonds for later use by the plant—and, later still, by plant-eating humans.

Boettcher's task is to synthesize new materials—in essence, to create artificial leaves—that mimic the reaction-spurring role that chlorophyll plays in photosynthesis. But instead of producing



sugar as plants do, these man-made leaves would produce hydrogen fuel, which burns cleanly and could be used to power cars, create heat or generate electricity. His research could lead to new, more efficient techniques for large-scale solar energy harvesting and storage.

Traditional solar cells, which convert sunlight into electricity, are highly efficient but are expensive, require a great deal of energy to produce and work only when the sun is shining, said Boettcher. Plus, storing electricity from solar cells is cumbersome and costly. Hydrogen is a more versatile end-product: It can be stored as a compressed gas and burned like natural gas to generate heat that can drive a turbine, be recombined with oxygen in a fuel cell to create electricity or be combined with carbon dioxide to form methanol (a gasoline substitute).

"Many researchers are working on ways to store hydrogen in less space so that we could better use it as a transportation fuel," said Boettcher.

But there is still much work to be done. First, a stable, efficient sunlight-collecting material—the outer surface of the artificial leaf—must be developed. Boettcher and his colleagues are looking at semiconductors such as tungsten oxide and iron sulfide. Second, they need to develop an abundant, inexpensive catalyst to drive the water-splitting reaction, like nature's catalyst in green leaves.

Like a fuel production cycle that starts with water and ends with water, Boettcher's academic life has come full circle: After graduating from the UO in 2003 with a bachelor's degree in chemistry, he completed a PhD in inorganic materials chemistry at the University of California at Santa Barbara and held a postdoctoral position at the California Institute of Technology; he then joined the UO faculty in March 2010. He was recently selected as one of only 18 scientists worldwide to be named to the 2011 class of DuPont Young Professors. —ET

UO's Private Science Cloud

Eugene and clouds—they go together like Ducks and touchdowns. It is perhaps fitting, then, that computer and information science professor Allen Malony is leading a team that will install a UO cloud computing system in late spring 2012. The project will be funded by a \$1.97 million National Science Foundation grant awarded under the American Recovery and Reinvestment Act of 2009.

Cloud computing—shared resources and software stored on central servers that users access via the Internet—is designed to improve users' productivity while providing all their computing needs. The UO cloud, called ACISS (Applied Computational Instrument for Scientific Synthesis), will enable scientists to access via a web browser the computational and storage resources needed for their work.

This means that 1) they will have access to hundreds of terabytes of storage space, advanced data-crunching tools and high-powered computational resources that don't need to be installed on their own computers or a local server, and

2) they can seamlessly share data and project responsibilities with colleagues around the world (who can also access the cloud via a simple click of the browser button).

The ACISS system will create “a private science cloud offering the most powerful computing resources yet at the UO in support of research discoveries in biology, physics, chemistry, human brain science and computer science,” said Malony.

The cloud will benefit a number of projects, including the research taking place in the Neuroinformatics Center (NIC) where Malony is director. Together with Don Tucker, UO psychology professor and CEO of Electrical Geodesics, Inc., the NIC research team is working to build next-generation tools to more accurately measure, analyze and understand human brain dynamics.

The project involves modeling the electromagnetic activity of the human head to map scalp EEG data to its sources within the cortex. “The research problem is fundamentally challenging because observing brain activity noninvasively at

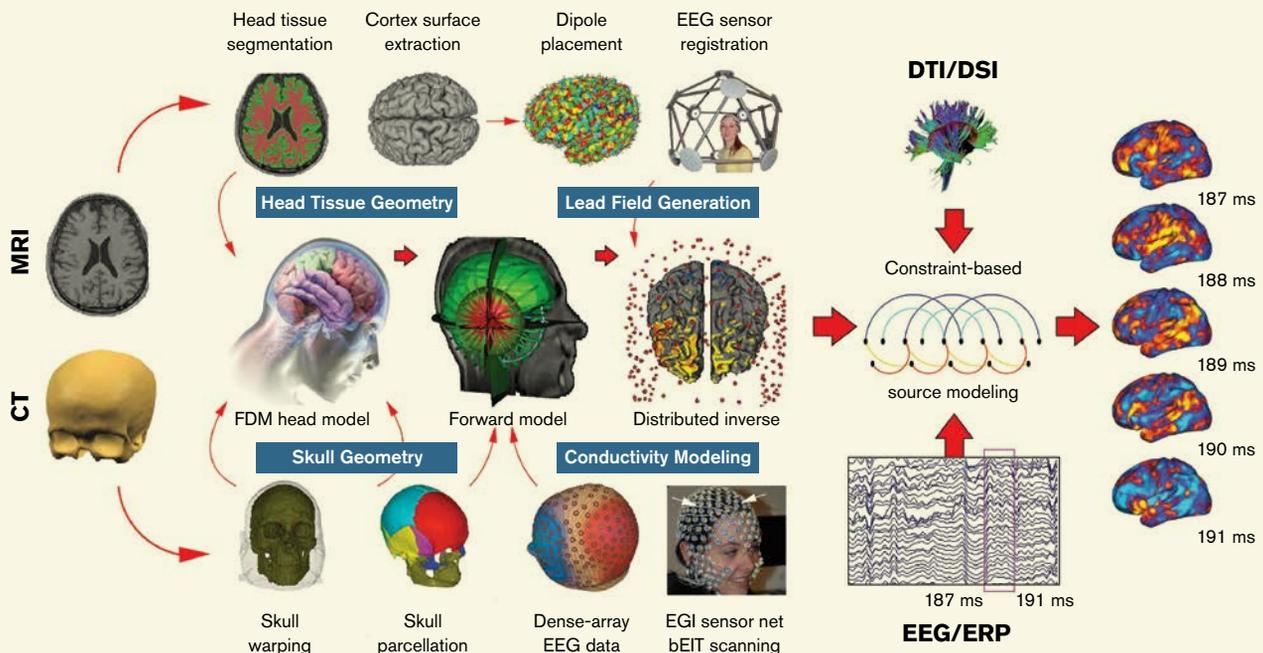
high resolution requires high-performance computing coupled with deep domain knowledge of brain structure and function in order to get it right,” says Malony.

The goal is to improve on and complement other brain-imaging technologies, in particular fMRI-based technologies that provide good three-dimensional resolution, but are not able to produce images in such rapid succession. The faster the imaging, the more likely it is that researchers will be able to pinpoint the precise source of neuronal activity. One potential application of the NIC work is locating brain networks that contribute to epileptic seizures, for purposes of presurgical planning.

The ACISS science cloud is intended to address not only Malony's neuroinformatics work, which requires running computationally intensive codes numerous times, but also the variety of computing and storage needs of UO scientific research.

“ACISS is an important investment toward a new model of research computing at the university,” he said. —ET

Below: A research team at the Neuroinformatics Center is modeling electromagnetic activity of the human head, to allow the mapping of scalp EEG data to its sources within the cortex. Because this project is computationally intensive, it will be greatly facilitated by cloud computing resources.



Understanding the Enemy

Analyzing Cancer as an Evolutionary Process

Genetic adaptation to different environments helped human beings and chimpanzees diverge from a common ancestor approximately six million years ago, resulting in the two separate species they are today.

This evolutionary process also happens at a cellular level in our bodies and may explain why cancer cells thrive and become deadly tumors.

Two UO researchers are committed to understanding this process, and their work may result in a fundamental impact on cancer research.

Supported by a \$1 million grant from the W.M. Keck Foundation, biologists Hui Zong and William Cresko are in the midst of an ambitious three-year project focused on genetic changes that occur in glioma, the deadliest form of brain cancer.

This project was jump-started this year by a high-impact paper that identified the cellular origin of glioma, using an innovative mouse genetic model developed by a Zong-led team from the UO and Stanford University. The Oregon team is now working on the next important step: identifying the key genetic changes that lead to the glioma cancer cells.

Scientists have long suspected that dividing cancer cells can mutate and adapt in response to their surroundings within the body—just as organisms in the wild adapt over generations to changing environments. These genetic adaptations allow cancer cells to grow rapidly in number and strength, usually at the expense of healthy neighboring cells.

Unfortunately, cancer research is mostly limited to end-stage tumors since tumor cells are not readily visible at earlier stages when one uses conventional tools. These end-stage tumors often have many genetic changes, only a few of which are responsible for the cancer, so identifying causative changes in full tumors is very difficult.

The approach taken by Zong and Cresko is different from that of many cancer researchers, and solves this problem. Using a new cellular tool, they study cells

far earlier in the process, starting with benign mutations and charting their path into full-fledged malignancies.

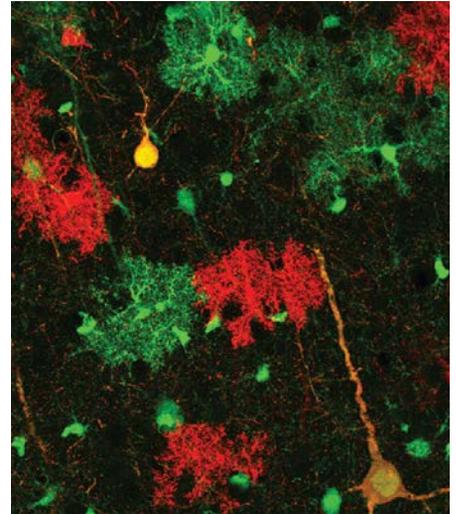
“The medical community has known for years that cancer is the consequence of many genetic and cellular alterations, rather than a sudden outburst of cell proliferation,” said Zong, assistant professor of biology in the Institute of Molecular Biology. “The grant allows us to analyze cancer as an evolutionary process.”

The goal is to improve early diagnostic tools and facilitate the development of multipoint intervention strategies.

“Therapeutic methods that merely try to kill dividing cells have many limitations and devastating side effects,” said Zong. “The best way to fight our enemies is to fully understand and then counteract their logic.”

In addition to the potential for translating the discovery into clinical diagnosis and treatment, the UO Keck-funded technology should be able to determine the point of ignition in other cancers, Zong said.

This is a multidisciplinary effort that reflects “the deep history of integrative research at the University of Oregon,” said



Cresko, an associate professor of biology in the Institute of Ecology and Evolution.

By combining cell-labeling approaches and a glioma mouse model developed in the Zong lab with genome-sequencing technologies and computational analysis equipment developed by the Cresko laboratory, the team will create tumor cells marked with green fluorescent proteins; normal cells are tagged with red (above).

The entire genomes of these cells will then be sequenced in the UO’s new High Throughput Sequencing Facility. By analyzing subtle genetic changes in the DNA of these marked cells, the researchers may provide a springboard to new interventions. —ET

Power Surge

In science, as in life, sometimes discovery is about unintended consequences.

UO geologists Mark Reed and James Palandri, taking part in a deep-drilling project in Iceland’s Krafla volcano, were surprised when magma (underground lava) gushed into their well. Normally, magma lies in pools more than ten kilometers (32,800 feet) below the surface, but this inflow occurred at a depth of about two kilometers (about 6,500 feet).

As a result, their original project—an effort to plumb the depths of the



MARK REED

How to Stop Smoke Signals

A UO professor is on the front lines of humanity's war against nicotine addiction, and one of his weapons of choice is an everyday technology that can also be used to order pizza and vote for *American Idol* contestants.

Yes, the ubiquitous text message is being explored as a tool for helping smokers kick the habit.

Elliot Berkman, an assistant professor of psychology, and his colleagues have published two studies that investigate the science of smoking cessation. In one, they isolated the brain regions most active in controlling urges to smoke. And in a second study, they demonstrated the

effectiveness of cell-phone text messaging to measure and intervene in those urges.

The two studies looked at the same group of 27 heavy smokers,

who had been recruited from the American Lung Association's Freedom From Smoking program in Los Angeles.

In the first study, published in spring 2011 in *Psychological Science*, Berkman, along with co-authors Emily Falk at the University of Michigan and Matthew Lieberman at UCLA, used functional magnetic resonance imaging (fMRI) to map areas of the brain responsible for impulse control.

Mapping these areas is important because an attempt to kick an unwanted habit such as smoking is "a war that consists of a series of momentary self-control skirmishes," they said.

At the outset of this study, participants' brains were scanned while they performed a variety of emotionally neutral activities involving impulse control, such as pushing or pulling a lever in response to certain letters and refraining from doing anything in response to the letter X. After the fMRI scans, subjects submitted to lung and urine tests and answered questions about their cravings and smoking habits.

The results suggest that a person's ability to resist cravings can be both observed and predicted through fMRI testing. The data

could then be used to tailor a cessation program to an individual's specific needs.

"We are really excited about this result because it means that the brain activation we see in the scanner is predictive of real-world outcomes across a much longer time span than we thought," said Berkman.

For the second study, the three researchers, along with Janna Dickenson of UCLA, investigated the use of text messaging as a potential tool to assist in smoking cessation. They sent eight text messages per day for three weeks, asking participants to document their ongoing cravings, mood and cigarette use.

The study, published in spring 2011 in *Health Psychology*, reveals that text messaging may be an effective delivery mechanism for interventions for a number of reasons. First, it is much cheaper than the \$300-plus data collection devices used in other smoking interventions. Second, most people already possess the existing hardware (cell phones). Finally, the messages can be delivered almost instantaneously, minimizing the chance of memory biases in self-reporting.

Taken together, the fMRI and text message data explicitly connect the neurological and behavioral aspects of response inhibition—in other words, the neural mechanism for interrupting a habitual or unwanted behavior and the behavioral intervention to stop it. —ET



Earth for high-temperature, high-density, low-viscosity water, so-called supercritical water, for use as a potential source of geothermal power—had to be put on hold. But an intriguing new possibility had presented itself: Can the extremely high pressures and temperatures of magma be exploited as a source of electrical energy?

The interruption presented the team with a unique opportunity to ponder the possibilities of a new and especially hot geothermal system as an energy source.

Today, one-third of the electric power and 95 percent of home heating in Iceland is produced from naturally occurring steam and hot water inside volcanic rocks. The higher the temperature and pressure

of underground water and steam, the more cost-efficient it is to generate electric power from these naturally occurring resources.

During the research group's drilling, magma began flowing into the well at a depth of 2.1 kilometers, filling the bottom nine meters of the hole. When the well was tested, high-pressure 375°C (700°F) steam rose to the surface. If passed through a turbine at the flow rates of the well during tests, such hot, dry steam could generate 25 megawatts of electricity, enough to power 25,000 to 30,000 homes. Typical geothermal wells produce 5 to 8 megawatts of electricity.

The group—whose research is part of the Iceland Deep Drilling Project, a

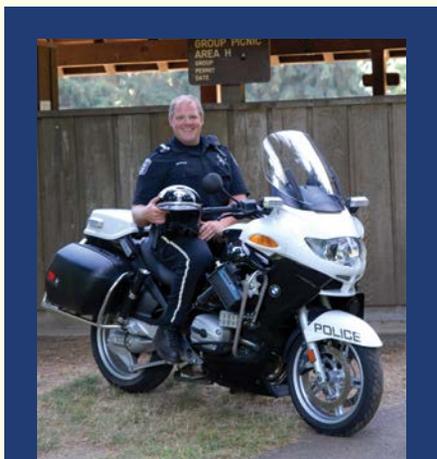
government-industry scientific research consortium—suspects that similarly shallow pools of magma exist elsewhere in the world, wherever young volcanic rocks are found. These pools, when located, could become reliable sources of high-grade energy. The group plans to begin drilling a new well in southwest Iceland in 2013 to explore this possibility.

The original research was funded by a \$3.5 million grant from the National Science Foundation and a \$1.5 million grant from the International Continental Scientific Drilling Program. —ET

Left: Hot water and steam pipes leading from a geothermal wellhead in Iceland. Ninety-five percent of home heating in Iceland is produced from volcanic sources.

Life On the Job

Honoring Our Emergency Responder Alumni



We offer a tribute to Chris Kilcullen '95 (psychology, sociology), a police officer with the Eugene Police Department who died in the line of duty on April 21, 2011. Officer Kilcullen was shot and killed when making a traffic stop. He was remembered by thousands of community members and first responders from all over the Northwest in a memorial service at Matthew Knight Arena on April 29. Visit cascade.uoregon.edu for videos of the memorial.

In his memory—and in memory of the first responders who lost their lives ten years ago on 9/11—we offer here profiles of just a few of the hundreds of CAS alumni who have gone on to serve their communities as sworn officers, firefighters and other emergency responders whose own safety is on the line every day. Thank you for your service.



TRACY BALLEW

**Police Officer, City of Portland
Class of '86, Psychology**

What drew her into public safety and service: After selling mutual funds for seven years I learned I was allergic to working in an office. I needed something that got me outside with a high level of variety. An officer I got to know took me on a ride-along and I was hooked.

Meaningful career experiences: Being able to bring a voice of reason into situations where no one is acting reasonably. I also find value in bringing compassionate help to the vulnerable in our community who need our compassion the most.

This photo (see above) was taken by a three-year-old. She had just seen her daddy get arrested for fighting with her mommy. When I went to take photos of her mommy's bleeding knee, the little girl helped hold up her mom's pajama leg so I could get a good photo. She then turned to me and said, "I want to take a photo of you."

I meet amazing people, young and old. This is one of the reasons I love my job even after seventeen-and-a-half years.

UO influence: My psychology major and biology minor help me on a regular basis. I deal with the mentally ill every day. Working with cadavers in my anatomy labs helped prepare me for some of the less pleasant parts of my job.



RICHARD GAINES

**Fire Lieutenant (Retired),
City of Bellevue (Washington)
Class of '69, General Social Science**

What drew him into public safety and service: A bad economy and good luck. I was the project manager for a construction company in the late 1970s. When a proposed project was to be postponed for a year, I jokingly asked a subcontractor if he was hiring and one of his employees said the fire department was. I figured "what the heck." Thus began a very fulfilling career.

Meaningful career experiences: My career was exciting at times, sad at times, inspiring at times and always challenging. I remember asking a firefighter before I was hired what he liked about his work. He simply said the instant gratification of making a difference. It didn't take long to realize your company is called because someone is in trouble and they need your help. More often than not you provide it and that is very gratifying. But my best experience was with the people I worked with: bright, vital, engaging, creative and innovative . . . wonderful folks.

UO influence: The UO gave me a broader perspective and the ability to step back and appreciate other viewpoints. It taught me to be open to learning and take advantage of opportunities that the service offered. This "student-firefighter" attitude culminated in my being assigned as the assistant to the training coordinator my last five years before retiring. One of the duties I treasured most was running our department's recruit academy. Another was a complete rewrite of our training manual. I am convinced that my university experience was a big contributor to what success I may have had. And to imagine that I did it in the heart of Husky territory! GO Ducks!



MATT HERBERT

**Police Officer, City of Eugene
Class of '90, Sociology**

What drew him into public safety and service: A lot of my high school friends planned to study business in college, but I wanted a career of public service of some kind. A high school friend joined the Eugene Police Explorer Post. (Explorers are affiliated with the Boy Scouts.) When she told me about it, I became interested and joined. One of the main activities was to accompany on-duty patrol officers on ride-alongs. For an eighteen-year-old, at the peak of testosterone production, I could not believe people were paid to do this kind of work.

Meaningful career experiences: Many of my most “memorable” experiences are certainly not the highlights of my career. The murder of Officer Chris Kilcullen and the accidental death earlier this year of Sergeant Jerry Webber (also EPD) are two recent events that stand out. I work in the Violent Crimes Unit and have been exposed to a fair bit of death and mayhem, but nothing prepares you for the death of a comrade. On the positive side, I take great satisfaction from working on cases with good outcomes. Bad guys go to prison and victims feel they received some justice. It happens once in a while.

UO influence: The most beneficial part of my experience at the UO was the extensive reading and writing required of students. The paperwork and report writing in police work is voluminous and the ability to communicate clearly is essential. Many otherwise capable people are not hired or are soon terminated because they cannot write well enough.



BRETT KELLER

**Trooper, Oregon State Police
Class of '96, Psychology**

What drew him into public safety and service: After graduating from the UO I thought about going for an MBA, but I wanted a job where I felt like I was helping the community. Reflecting on my prior experience in the Army, serving as a police officer was the career that I felt would help me accomplish this.

Meaningful career experiences: My career highlight has been making the bomb team and completing the training to be a certified bomb technician. It is a unique and challenging position and very satisfying knowing the help we provide to other agencies and the general public. The greatest part of it is the people that I work with on the team.

Another highlight has been working with another agency in California where we tracked a sixteen-year-old girl with a form of autism who had been chatting over the Internet with a man from the Portland area, and he went to California to pick her up. We were able to track her through her text messages and eventually spotted the car she was in and arrested the man. It was great being a part of an operation that probably saved a young girl's life.

UO influence: I majored in psychology and this prepared me to work with and deal with people, also how to identify certain behaviors and how to talk with people with those behaviors. I was also in ROTC, and this taught me about leadership, duty, honor, integrity and selfless service—attributes that anybody in law enforcement must possess.



ANDREW SCHNEIDER

**Firefighter and Paramedic,
City of Stockton (California)
Class of '00, Political Science**

What drew him into public safety and service: My father was a San Francisco fireman of thirty years. I didn't know it at the time, but firehouse culture was ingrained in me from a very early age.

Meaningful career experiences: We respond to all sorts of emergencies: vehicle accidents, childbirth, gunshot victims (twenty-three homicides in Stockton so far this year), assaults, stabbings and all brands of medical calls. We are also trained to look out for each other—to pull each other out of collapsed structures and rescue lost firefighters in burning buildings. I see the ugliest characteristics of society on one call and on the next the brightest moments of humanitarianism. That is what I love about my job. But somewhere along the line we have gone from being viewed as heroes to being called “hogs at the trough,” blamed for bankrupting cities and mistrusted in our own communities. My job has always given me a window into people's lives during their greatest moments of vulnerability, yet the manner in which we are being received by those same folks has drastically changed.

UO influence: My political science degree has always assisted me with critical thinking, decision making, study habits and test taking, but now it is most put to use within my firefighter's union. Public speaking, education and campaigning have become the norm for the modern-day firefighter. I never used my degree as much as I have in the last three years. And I never thought it would be used to defend the integrity and honor of the men and women who place themselves in harm's way for their communities.

cascade.uoregon.edu

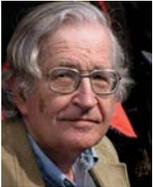
Visit the *Cascade* website for online extras.



OFFICER TRIBUTE: Watch videos at cascade.uoregon.edu of the memorial to Officer Chris Kilcullen at Matthew Knight Arena, as well as the motorcade that included hundreds of emergency responder vehicles. We welcome your comments and especially invite other emergency responders to tell us, in our online comments section, about their life and work. See story, page 26.



PRISONER OF THE TALIBAN: Political science alumnus Jere Van Dyk '68 delivered the School of Journalism and Communication 2011 Ruhl Symposium Lecture in May. Van Dyk, a journalist, was researching a book in Afghanistan when captured by the Taliban in February 2008 and spent forty-five days in captivity, an ordeal detailed in his campus talk. Visit cascade.uoregon.edu to watch the lecture.



CHOMSKY CAMPUS VISIT: Noam Chomsky is considered one of the fathers of modern linguistics, but has become better known since the 1960s as a political dissident and anarchist. His campus visit in April, sponsored by the Collins Distinguished Speaker Series in the Department of English, drew (unsurprisingly) an overflow crowd to 150 Columbia Hall. Watch his talk at cascade.uoregon.edu.



NIXON IN CHINA: The modern opera, which dramatizes Nixon's historic meet-up with Mao in 1972, will be performed in Eugene next spring. Visit cascade.uoregon.edu to watch clips from the Metropolitan Opera's dress rehearsal in January 2011, including segments featuring Nixon's arrival, Madame Mao's over-the-top aria, the famous banquet scene and an interview with director Peter Sellars and composer John Adams. See story, page 21.



YEMENI MANUSCRIPT PRESERVATION: Watch a video of a Yemeni scholar in Sanaa explaining the provenance of two centuries-old manuscripts, as revealed by scribal and ownership statements in the codices' opening pages. He is interviewed by David Hollenberg, assistant professor of Arabic language and religious literature. Visit cascade.uoregon.edu and see story, page 14.



MICROFINANCE AND ITS DISCONTENTS: Lamia Karim has become a widely interviewed critic of the microcredit phenomenon. Listen to a podcast of a July 2011 interview on Jefferson Exchange, a call-in program on Jefferson Public Radio. You can also listen to an NPR podcast from March 2011, in which Karim discusses the controversy surrounding Grameen Bank in Bangladesh, at cascade.uoregon.edu. See story, page 2.

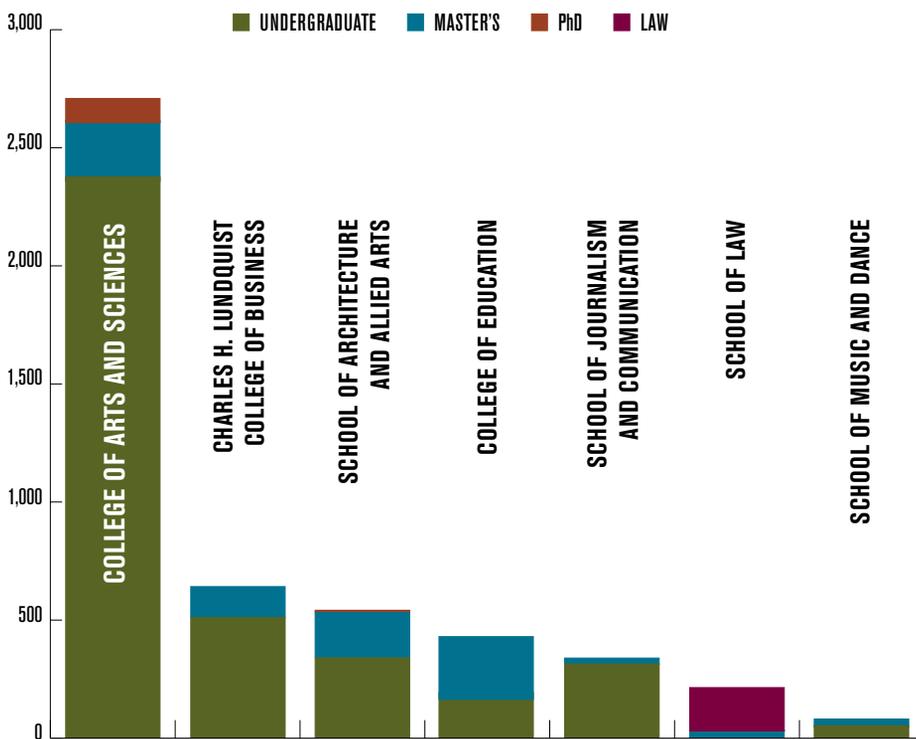


FOLLOW US ON FACEBOOK: The UO College of Arts and Sciences now has an easy-to-find Facebook address: facebook.com/UOCAS. We invite you to follow us by clicking on the "like" button on our page.

College of Arts and Sciences— Did You Know?

The College of Arts and Sciences is the academic heart of the University of Oregon. It provides a nucleus of liberal arts studies through degree programs in humanities, social sciences and natural sciences.

UO Degrees by Academic Unit, 2010



Ten Most Popular Majors in the College of Arts and Sciences

- 1 Psychology
- 2 Political science
- 3 Biology
- 4 Human physiology
- 5 Sociology
- 6 Economics
- 7 English
- 8 History
- 9 Environmental studies
- 10 Spanish

Faculty Honors and Awards

- 60** Guggenheim Fellows
- 33** Fellows of the American Association for the Advancement of Science
- 15** National Science Foundation Career Awards
- 12** American Academy of Arts and Sciences Members
- 7** National Academy of Sciences Members
- 1** MacArthur Fellow
- 1** National Medal of Science

CAS Degrees

(Excluding certificates, minors, and specializations)

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



UNIVERSITY OF OREGON
College of Arts and Sciences
 1296 University of Oregon
 Eugene OR 97403-1296

Nonprofit
 Organization
 US Postage
 PAID
 Eugene OR
 Permit No. 63

CASCADE

UO COLLEGE OF ARTS AND SCIENCES

Inside this issue



Slave Rebellion **PAGE 16**



What Opera Can Do **PAGE 21**



Power Surge **PAGE 24**



Find us on:
facebook.

Facebook.com/UOCAS

