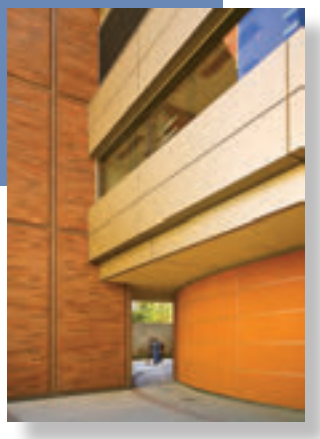
Winter 2012 Volume Seventeen

UCLA COLLEGE REPORT

UCLA COLLEGE OF LETTERS AND SCIENCE

On the cover:

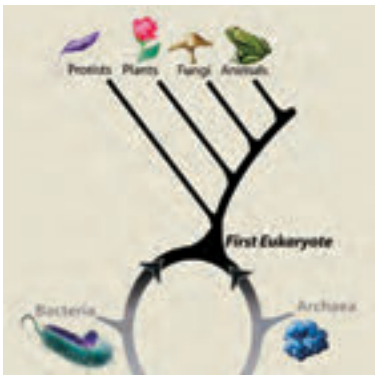
The California NanoSystems Institute, the interdisciplinary hub for research on nanotechnology for faculty across UCLA, including more than 40 scholars from the life sciences and physical sciences in the College.



Snapshots

Winter 2012 Volume Seventeen

UCLA COLLEGE REPORT



From the Deans of the College of Letters and Science

Dear Friends,

As the College begins planning for its 90th anniversary in 2013, we can't help but look back at our achievements. As you'll see on page 4 of this *College Report*, the creation of the College of Letters and Science was a pivotal moment for the fledging Southern Branch of the University of California.

The leaders of the new College were exceptional individuals who made substantial contributions to our campus and UC as a whole. These pioneers include Charles Rieber (Philosophy), the first dean of the College, who served from 1923 to 1936. Rieber studied with Josiah Royce at Berkeley.

A decade later, Paul Dodd (Philosophy), dean of the College from 1945 to 1961, organized the rapidly growing College into four divisions, each headed by a dean.

- Franklin P. Rolfe (English), the first humanities dean, served for 14 years; he was then dean of the College from 1961 until his retirement in 1970.
- Dean E. McHenry (Political Science), the first dean of social sciences, later worked with UC president Clark Kerr on the California Master Plan for Higher Education and was the founding chancellor of UC Santa Cruz.
- Albert W. Bellamy (Biology) served briefly as dean of life sciences; later he chaired biophysics in medicine and worked on plans to develop UCLA's Center for Health Sciences.
- William G. Young (Chemistry), first dean of physical sciences (1946–1957), was also the first UCLA scholar elected to the National Academy of Sciences (1951); in 1957 he became vice chancellor for planning, a position held until his retirement in 1970.

The dedication and vision of these early leaders and others have provided us with the foundation on which we as current deans continue to build. Today, the College of Letters and Science is the largest and most comprehensive academic organization in the University of California system.

As we look to the future, we remain dedicated to advancing the College, strengthening its distinguished faculty and nourishing its innovative academic and research programs.

Sincerely,

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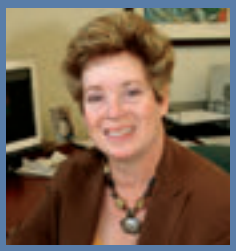

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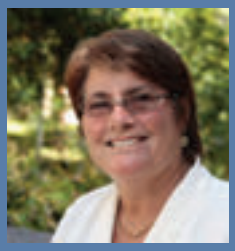

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College News

An update of events and progress in the UCLA College of Letters and Science.

David Schaberg appointed interim dean of humanities

David Schaberg

Professor David Schaberg of the Department of Asian Languages and Cultures has been appointed interim dean of the Division of Humanities.

Schaberg assumes the post from Tim Stowell, who served in leadership roles in the Humanities for three decades and now returns to the faculty in the linguistics department.

A member of the UCLA faculty since 1996, Schaberg has served as chair of his department as well as co-director of the Center for Chinese Studies.

Schaberg has published articles on early Chinese literature, historiography and thought, and Greek/Chinese comparative issues. He is the author of "A Patterned Past: Form and Thought in Early Chinese Historiography," which was awarded the 2003 Levenson Prize for Books in Chinese Studies.

Schaberg is also a contributor to a new translation of China's first great historical work, "The Zuo Tradition," to be published by the University of Washington Press.

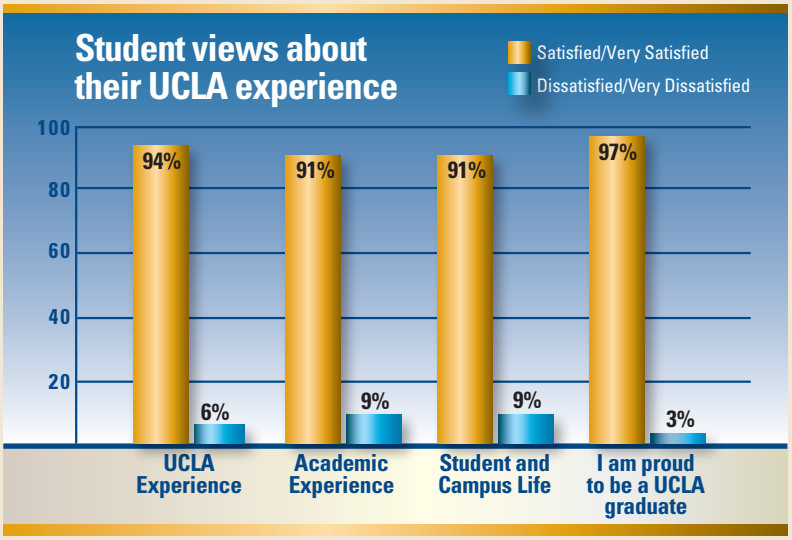
Faculty Receive NEH Grants for digital tools and teaching innovation

Three faculty in the College's Division of Humanities have won major grants from the National Endowment for the Humanities (NEH) to support collaborative research, scholarly programs, and creation of new digital tools and teaching methods.

Joseph Bristow, professor of English, received a grant awarded through the Institutes for Advanced Topics in Digital Humanities to develop a five-week seminar program for college and university faculty to explore the life and work of Oscar Wilde.

Assistant Professor of Classics Christopher Johanson will use his digital humanities start-up grant to develop a new software platform that will use two archaeological digs in Turkey as test cases to present findings from archaeological sites, as well as data management, and curating.

Todd Presner, professor of Germanic Languages and director of the Center for Jewish Studies, received funding through the Institutes for Advanced Topics in the Digital Humanities to create a three-week summer institute hosted to explore how geospatial technologies like Geographic Information Systems (GIS) can be used for teaching and research in the humanities.

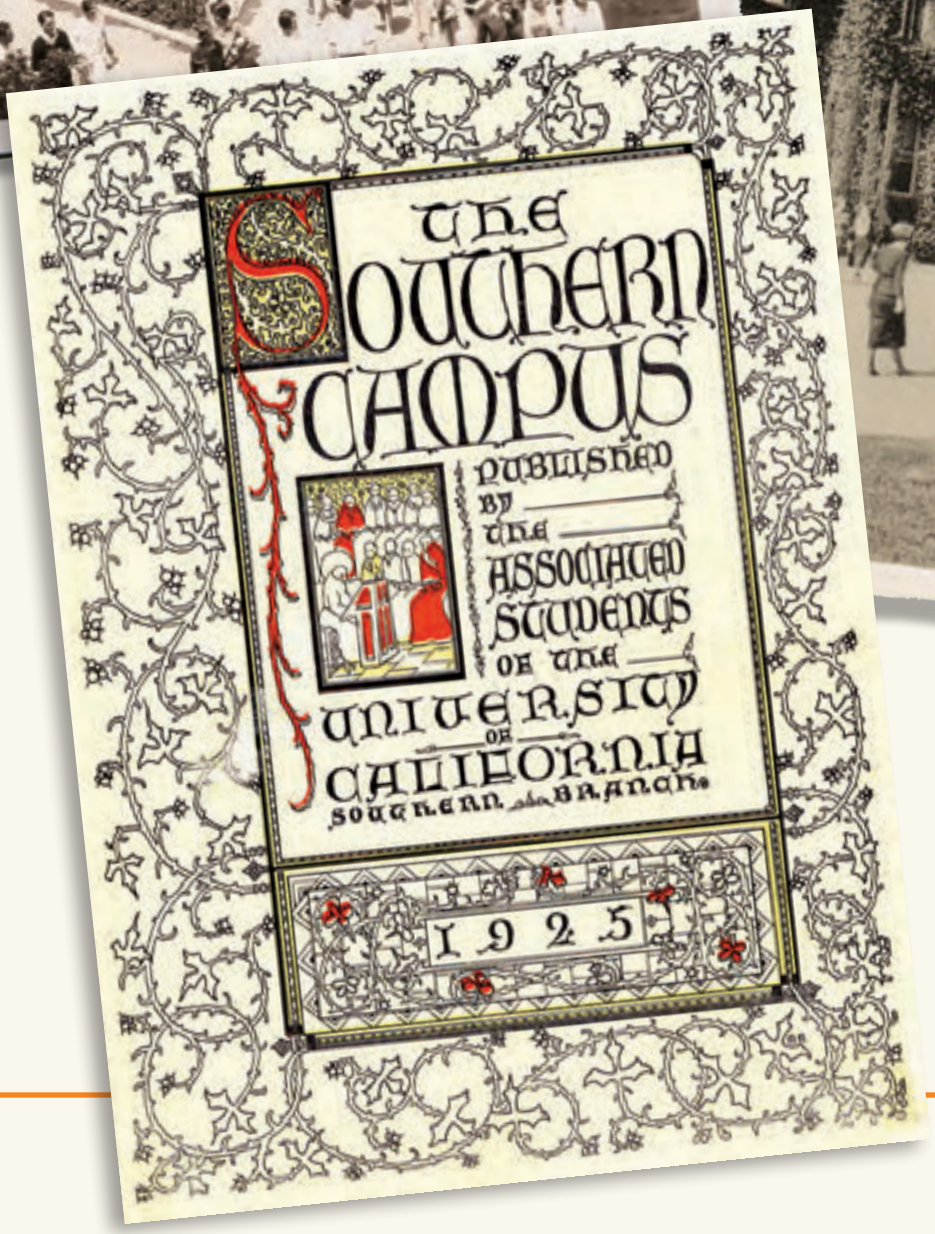


Each spring, seniors in the College of Letters and Science express their views about UCLA in a survey that explores academics, campus life, research opportunities, and faculty quality. The 2011 survey found seniors continue to give very high marks to UCLA overall, their academic experience, campus life, and their pride in being Bruins. For the full survey findings, visit www.college.ucla.edu/seniorsurvey.

Student Comments from Senior Survey 2011

"The interdisciplinary courses that I've taken at UCLA encouraged me to integrate multiple types of knowledge, and to appreciate subject matter from many points of view."

"Joining a research lab was a decision that has provided me with priceless benefits. I have seen science in action, and have been able to see what works and what doesn't work."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SOUTHERN
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THE
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STUDENTS
OF THE
UNIVERSITY
OF
CALIFORNIA
SOUTHERN BRANCH
1925

The College: *at the Heart of UCLA*

In June 2012, the College will honor its 88th graduating class when it celebrates future leaders, and looks back at a remarkable transformation that converted a "normal school" into the heart of a great research university.

How is a College of Letters and Science born?

UCLA was founded almost 100 years ago, its origins in a two-year teachers college in the orange groves of Hollywood. It would take an ambitious transformation to convert the Los Angeles Normal School into the vast educational enterprise that would become UCLA—and creating the College of Letters and Science was the major milestone in that process.

"UCLA as we know it started with the establishment of the College," said Judith L. Smith, vice provost and dean for undergraduate education. "As we move toward major anniversaries for the campus—including the 90th birthday of the College in 2013, and the 100th anniversary of the birth of UCLA in 2019—it seemed like the ideal time to reflect on how the College came to be."

The history of UCLA and the College began in 1919, but the prologue goes back to March 1881, when the California Legislature created a state "Normal School" in Los Angeles to train K-12 teachers. The Normal School opened in 1882 in downtown Los Angeles, and in 1914 moved to a larger campus on Vermont Avenue in Hollywood.

The population of Southern California was growing quickly, and local residents recognized the need for a public research university beyond the borders of Berkeley. Regent Edward A. Dickson and Normal School Director Ernest Carroll Moore lobbied the Legislature to transform the school into a second UC campus.

The lobbying prevailed, and on May 23, 1919, Governor William D. Stephens signed Assembly Bill 626, which transformed the Los Angeles Normal School into the "Southern Branch of the University of California"—the birth of the institution that would become UCLA.

In spite of its name, the Southern Branch was still a two-year school with a primary mission of instruction for teachers. But beginning in 1919, the Southern Branch was divided into two parts: the teachers program, which trained instructors in the "educational arts," and the junior college courses grouped under the category of Letters and Science. Students in Letters and Science attended the Southern Branch for two years, and then completed their B.A. degrees at a four-year university.

When the Southern Branch opened in 1919, teacher trainees outnumbered students in Letters and Science five to one. However, by 1923, there were 2,286 students in Letters and Science, outnumbering teacher trainees and reinforcing the need for a four-year public university in Los Angeles.

In 1923, the regents approved the third year of curriculum—the formal beginning of the College of Letters and Science. That year Charles H. Rieber, professor of philosophy, was appointed as the first dean; he served from 1923 to 1936 *(for more on the early leaders of the College, see page 2)*.

After the third year was approved, the addition of a fourth year was inevitable. In December 1923, the fourth year of curriculum was approved, which began in September 1924, thus making the Southern Branch a full-fledged four-year public university.

The College awarded its first bachelor's degrees in 1925—to 98 women and 26 men. Enrollment expanded so rapidly that the Southern Branch soon outgrew the Vermont Avenue campus; the university moved to Westwood in 1929. Graduate study was authorized for the College in 1933, and the first master's degree was awarded in 1934. The first doctorate presented by the College—a Ph.D. in history—was earned in 1938.

Today, UCLA's stature as one of the world's premier research universities is in large measure due to the quality of the faculty, academic programs, and students in the College; of UCLA's 40 top-ranked academic programs, 28 of those departments are in the College.

"The College has come a long way in since the first seniors graduated in 1925," said Smith, "In June 2012, we will honor the 88th class of graduating seniors at College Commencement by recognizing the achievements of 88 seniors who represent our future—our legacy."

Why celebrate 88? Smith notes with a smile that in many cultures, 8 or 88 symbolizes good fortune. David Schaberg, interim dean of humanities and Chinese historian, observed, "because the word for the number 8 (ba 八) sounds like words for prospering and growing, eight is regarded by many Chinese as a lucky number, one that promises a future of smooth and fortunate development."

"And," added Smith, "we can't forget our own campus legacy with 88: in 1974, Coach Wooden and the Bruins set the record for consecutive victories in men's basketball at 88 wins."

Ancient Clues to Future Change

By Kim DeRose

Ellesmere Island, in the northernmost region of Canada, is roughly the size of Southern California but has a total permanent population of 146. With glaciers and ice covering large parts of the island and an average annual temperature of minus-three degrees Fahrenheit, the tundra is frozen most of the year. But four million years ago during the Pliocene Epoch, the climate on Ellesmere Island was much different than today—warmer, more temperate, and a haven for wildlife such as beavers, bear, and small deer.

A 1961 expedition discovered Beaver Pond, named for the ancient branches discovered at the site that were covered with beaver teeth marks. Beaver Pond has produced a wealth of fossilized plant and animal specimens that had remained remarkably well-preserved within a layer of peat encased by ice. And for two months each year during the summer, the area is a haven for scientists who are finding clues to past climate that could help identify the future environment on Earth.

By studying fossilized mollusks found in the peat on Ellesmere Island, UCLA geoscientists and colleagues have been able to construct an ancient climate record that holds clues about the long-term effects of Earth's current levels of atmospheric carbon dioxide—a key contributor to global climate change.

"We're working to understand what happens to polar climates when greenhouse gases are sustained or stabilized at their levels today," said Aradhna Tripati, an assistant professor who holds appointments in the department of earth and space sciences and the department of atmospheric and oceanic sciences.

"In 2009, we had reported the last time carbon dioxide was at this level in the atmosphere was four million years ago," said Tripati. "We're trying to quantify just how much warmer it was back then. The site on Ellesmere Island has fossils that are exquisitely preserved; it's like finding mummified human remains."

Two innovative geochemical techniques used to determine the temperature when the mollusk shells were formed suggest that summertime Arctic temperatures during the Pliocene Epoch 3.5 million to 4 million years ago may have been a staggering 18 to 28 degrees Fahrenheit warmer than today. And these ancient shellfish, found deep within the Arctic Circle, may have once lived in an environment in which the polar ice cap melted completely during the summer months.

"Our data from the Pliocene epoch, when for thousands of years carbon dioxide levels remained close to the current levels, may indicate how warm the planet will eventually become if carbon dioxide levels stabilize at the current value of 400 parts per million," said Tripati.

The results of this study—funded by the National Science Foundation—lend support to assertions made by climate modelers that the thick ice sheet that comprises much of the Arctic, including the North Pole, may be eliminated in the next 50 to 100 years, which would have far-reaching consequences for Earth's climate.

"We're working to understand what happens to polar climates when greenhouse levels are sustained at the levels they are today."

Earth scientist Aradhna Tripati studies three-million-year-old evidence gathered in the Arctic to develop new perspectives on the climate to come.

Photo: Martin Lipman

"The Intergovernmental Panel on Climate Change identifies the early Pliocene epoch as the best geological comparison for climate change in the 21st century and beyond," said Tripati, who is also a researcher with UCLA's Institute of the Environment and Sustainability and Institute of Geophysics and Planetary Physics.

"The climate-modeling community hopes to use the early Pliocene epoch as a benchmark for testing models used for forecasting future climate change."

The Earth's poles are exhibiting the most warming of any region on the planet, and the effect is most severe in the Arctic. The poles are also the first regions on Earth to respond to any global climate change; in some sense, the Arctic serves as the proverbial "canary in the coal mine," the first warning sign of fast-approaching danger.

Ice sheets and sea ice in polar regions reflect incoming solar radiation to cool the Earth—a phenomenon that makes the poles incredibly sensitive to variations in climate. An increase in Arctic temperatures would not only cause the ice sheets to melt but would also result in the exposed land and the ocean absorbing significantly more incoming solar energy, further heating the planet.

In the early Pliocene epoch, without a permanent ice cap in the Arctic, global temperatures were 2 to 5 degrees Fahrenheit higher than the current global average. This suggests, said Tripati, that the carbon dioxide threshold for maintaining year-round Arctic ice may be well below modern levels.

Climate scientists typically determine ancient temperatures by analyzing the composition of core samples drilled miles into the ice sheets of Greenland or Antarctica.

"Ice cores are a remarkable archive of past climate change because they can give us direct insights into how the poles have responded to variations in past greenhouse gas levels," Tripati said. "However, data from ice cores is available for only the past 800,000 years, during which carbon dioxide levels were never above 280 to 300 parts per million.

"To understand environmental change for earlier time periods in Earth's history when carbon dioxide levels were near 400 parts per million, we have to rely on other sources, such as fossils."

By measuring the isotopic content of oxygen in samples of fossilized mollusks and plants, researchers can determine the temperature at which the specimens originally formed. While this method enables climate reconstructions dating back millions of years without the need for ice core samples, it is uncommon to find a site that contains both plant and shell specimens from the same time and place—a pronounced advantage of the Beaver Pond site.

Tripati and her colleagues from the Canadian Museum of Nature and five other universities have pioneered a new method for measuring past temperature using only the calcium carbonate found in fossilized shells. Determining how much of the rarest isotopes of carbon and oxygen are present in the mollusks yields results consistent with the original method, which required an associated plant specimen. She is planning to build an instrument in a new laboratory that will allow her to develop this method further.

Tripati—who taught a *Fiat Lux* seminar titled "Rock Whispering and Extreme Climate" that introduced freshmen to the history of environmental change on Earth and explored extreme examples of climate change—will be taking a group of undergraduates to the Antarctic in 2013.

"We will be investigating geological deposits, glaciers, and plankton samples, and studying modern and ancient ecosystems on land and in the ocean," said Tripati. "This will be an amazing experience for undergraduates, so they can see first-hand in the south polar region new perspectives about the climate change to come."

Strathcona Fiord, site of the base camp on Ellesmere Island in northern Canada for research projects that are producing insight into past climate and future environmental change.

www.atmos.ucla.edu **www.ess.ucla.edu**

A Reflection of China's Past

By Meg Sullivan

Art historian Lothar von Falkenhausen, a pioneer of archaeological study in China after the Cultural Revolution, has distinguished himself as one of the world's top authorities on ancient China.

Suppose you were an aristocrat in China during the Han Dynasty in 200 B.C., adorning yourself in silks and jewels as you prepared for royal court. How would you check to see if you had a poppy seed stuck in your teeth?

"You'd look at your reflection in a bronze mirror, of course," said Lothar von Falkenhausen, a UCLA professor of art history.

And not just any mirror. You would peer into a sumptuous bronze mirror, its reflective surface coated in tin and polished with mercury to a high sheen. Mirrors produced in China over a span of 3,000 years have backs encrusted in mother of pearl, jade and turquoise, and are decorated with animals, plants, human figures—even geological formations rich in mystical associations.

Mirrors, in short, that rise to the level of artistic masterpieces.

This von Falkenhausen knows because he has assembled a prodigious amount of research on one of the best collection of ancient Chinese mirrors in private hands.

"They're incredibly splendid pieces," he said.

The research, conducted in collaboration with the UCLA Cotsen Institute of Archaeology, informs a stunning new exhibition at the Huntington Library, Art Collections, and Botanical Gardens in San Marino. Consisting of some 80 ancient bronze mirrors collected since the 1950s by philanthropist and UCLA benefactor Lloyd Cotsen, the display runs from November 12, 2011, through May 14, 2012. Afterwards the pieces will be repatriated to China under arrangements facilitated by von Falkenhausen.

It's all in a day's work for von Falkenhausen, who was among the first generation of Westerners to establish a toehold in the Chinese archaeological community after the Cultural Revolution.

In a career marked by exciting archaeological discoveries and landmark publications, von Falkenhausen has distinguished himself as one of the world's top authorities on ancient China and a passionate advocate for the ethical dispensation of the country's cultural heritage.

"He's a truly amazing scholar and an amazing person," said colleague Hui-shu Lee, a UCLA associate professor in Chinese art.

Yet, as von Falkenhausen recalls, his entry into the field was an accident. In 1979, the German native was a Chinese major at Bonn University. Having been fascinated by the lan-

guage since junior high school, he leaped at an opportunity to participate in a two-year exchange program with China. Sent to Peking University and pressed to pick a single area to study, he selected archaeology, but less out of curiosity in the field than in the country.

"I imagined the course of study would offer the perfect excuse to travel everywhere in China," von Falkenhausen said.

But once immersed, he became hooked, deciding that Chinese archaeology was "the most interesting thing imaginable."

Having played violin and piano as a child, von Falkenhausen devoted his dissertation to the musical instruments of China's Bronze Age, an experience that inspired him to write the 1993 book, *Suspended Music: Chime-Bells in the Culture of Bronze Age China*. Synthesizing a wide array of archaeological discoveries from between 1700 and 221 B.C., the book recounts how the country came to produce the world's first bronze chime-bells, each capable of producing two tones, depending on where they were struck.

"These amazing instruments are some of the great inventions of Chinese civilization," von Falkenhausen said. "They served as a trigger for the development of all kinds of scientific thinking in China because the greatest intellectual energies were expended on their manufacture."

Von Falkenhausen's next book is proving to be even more influential. *Chinese Society in the Age of Confucius (1000–250 B.C.)*, published by the Cotsen Institute in 2006, traces the development of ancient Chinese society as seen through the archaeological record. In 2009, the book won his field's premier book prize: the Society for American Archaeology Book Award, which goes to the single book in the field that, in the words of the society, "has had, or is expected to have, a major impact on the direction and character of archaeological research."

"His research transcends disciplinary boundaries in the way that not many people are capable of doing," said former graduate student Rowan Flad (Ph.D., 2004), now an associate professor of anthropology at Harvard. "He's someone everybody listens to and either agrees with or argues with."

Von Falkenhausen has also distinguished himself in fieldwork. Among the first wave of Western archaeologists to participate in excavations in China, he co-directed the nation's first exploration of a prehistoric salt production site. The project, which ran from 1999 to 2004, proved that salt production occurred 1,200 years earlier in China and 1,800 years earlier at the specific site than previously thought.

"It's clear that the Chinese must have produced salt earlier because humans can't exist without it," he said. "But the technologies just weren't known because it hadn't been studied archaeologically. Now we know that it does go back in time, and that the technology is basically the same as everywhere else."

Until the Huntington exhibit, however, von Falkenhausen's contributions have been appreciated primarily by the scholarly community. "Ancient Chinese Bronze Mirrors from the Lloyd Cotsen Collection," for which von Falkenhausen edited the exquisite two-volume catalog, should bring his expertise to the attention of a wider audience.

"Bronze mirrors after about 400 B.C. were used by people of a wide range of social ranks, including shopkeepers and prosperous farmers," he said. "They're not technically as complex by any means as the bronze bells, but they're interesting because they were much more widespread."

Cotsen's collection includes a specimen that dates to between 1800 and 1700 B.C., which is as old as any mirror ever discovered in China. The collection also includes one of the earliest examples of lacquer work preserved in near pristine condition: a square mirror from between 450 and 221 B.C. decorated with four raised serpents covered in black and red lacquer.

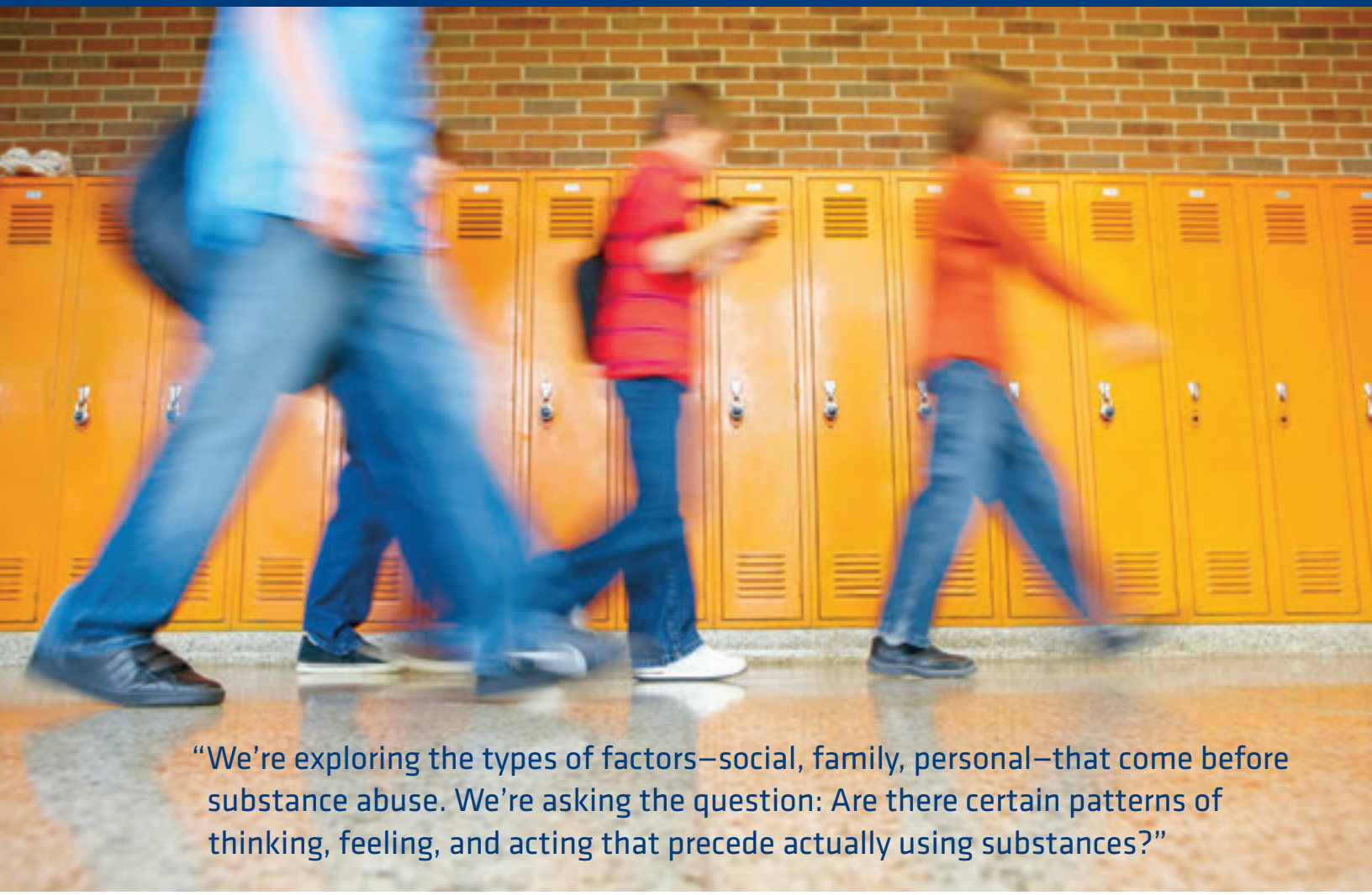
"It's one of the most significant bronze mirror collections ever assembled anywhere," he said.

Von Falkenhausen will discuss the "The Introduction and Transformation of Mirrors in China" on February 7, 2012, at 7:30 p.m. at the Huntington.

Mirrors produced in China over a span of 3,000 years have backsides encrusted in mother of pearl, jade, and turquoise, and are decorated with animals, plants, human figures— even geological formations rich in mystical associations.

"Ancient Chinese Bronze Mirrors from the Lloyd Cotsen Collection" are now on public view for the first time through May 14, 2012, at the Huntington in San Marino. For details, visit www.huntington.org.

A New Picture of the Impact of ADHD



"We're exploring the types of factors—social, family, personal—that come before substance abuse. We're asking the question: Are there certain patterns of thinking, feeling, and acting that precede actually using substances?"

By Stuart Wolpert

Attention Deficit Hyperactivity Disorder, better known as ADHD, is the most common psychiatric condition diagnosed in children. Spawning a wide range of symptoms that impair relationships, schoolwork, and quality of life, ADHD affects 5-10 percent of all children in the United States.

For at least half of ADHD children, the disorder continues into adolescence and adulthood, expressed in a chain of personal issues that can have a lifetime of consequences: In the United States, almost half of students with ADHD do not earn a high school diploma because they either drop out or are expelled, and less than five percent earn a college degree. Adults with ADHD experience higher rates of life troubles, such as serious auto crashes, greater injury rates and medical expenses, teen pregnancy, criminal behavior, and dysfunctional relationships.

And, as a UCLA study in the life sciences has found, ADHD may be a major catalyst for substance abuse.

In research that has become the first large-scale analysis of this issue, a group led by psychologist Steve Lee found that children with ADHD are two to three times more likely to develop serious substance abuse problems as they reach adolescence and adulthood.

"This greater risk for children with ADHD applies to boys and girls, it applies across race and ethnicity—the findings were very consistent," said Lee. "The greater risk for developing significant substance problems in adolescence and adulthood applies across substances, including nicotine, alcohol, marijuana, cocaine and other drugs."

The research, funded by the National Institute on Alcohol Abuse and Alcoholism in the National Institutes of Health,

Research in the life sciences led by psychologist Steve Lee shows that children with Attention Deficit Hyperactivity Disorder (ADHD) are much more likely to develop substance abuse problems as they grow up.

analyzed 27 long-term studies that followed more than 10,000 children—many as young as six—with or without ADHD as they grew into adolescence and young adulthood. In some cases the work tracked individuals for more than 10 years.

"A major priority in my lab is developing better clarity of the long-term impact of ADHD as children grow into adulthood," said Lee, an assistant professor of psychology.

"Previously, there's been inconsistency in individual studies of ADHD and substance abuse," Lee said, "and many studies don't begin until adolescence, because that's when substance abuse often starts. We've been addressing this subject by taking a comprehensive look at studies that begin much earlier in child development."

The researchers—including UCLA graduate student Kathryn Humphreys, undergraduate Rebecca Liu, and faculty and students at the University of South Carolina—combined all of the published studies that met rigorous criteria and analyzed them as a group. They found that children with ADHD were at greater risk for serious problems such as addiction, abuse, and trying to quit but being unable to stop.

"Any single study can have flaws," Lee said, "but our review of these studies provides a compelling analysis."

ADHD manifests itself in a wide range of symptoms, among them: being easily distracted, difficulty maintaining focus, talking nonstop, inability to sit still, and difficulty processing information.

While all children occasionally express disruptive behavior, to be diagnosed with ADHD a child must have at least six of nine symptoms of either hyperactivity or inattention, and the behavior must be causing life problems for the child, such as inability to get along with others or serious declines in schoolwork *(for more about ADHD, visit http://bit.ly/3pyaT)*. The vast majority of children with ADHD have at least six symptoms in both categories.

In addition, the symptoms must have started before age seven, must be present in multiple settings—at home and school, for example—and must be adversely affecting the child's personal life. The symptoms must not be explainable by any medical condition or any other mental disorder.

As children with ADHD enter adolescence and adulthood, they typically fall into three groups of roughly equal size, Lee said: one-third will have significant problems in school and socially; one-third will have moderate impairment; and one-third will do reasonably well or have only mild impairment.

Parents should monitor their children, said Lee, who noted that early intervention is often helpful. A diagnosis of ADHD must be made by a mental health professional such as a child psychologist or psychiatrist, and not by a parent or teacher.

For Lee, the research is the earliest stage in a progression of investigation. This first step clarifies the level of impact of ADHD and substance abuse; the next steps look back to identify the links in the chain of behavior that led to the abuse.

"Substance abuse disorders are difficult to treat in adults; we're hoping that treating children with these problems is more effective," said Lee.

"We're exploring the types of factors—social, family, personal—that predict substance abuse. "We're asking the question: Are there certain patterns of thinking, feeling, and acting that precede actually using substances?"

"By establishing a consistent pattern of behavior with some degree of accuracy, we can learn how these patterns form in childhood and how they result in substance problems," said Lee. "If we can identify these patterns, clinical psychologists and other mental health professionals who deal with ADHD issues can begin to break the patterns of behavior that occur before substance abuse begins."

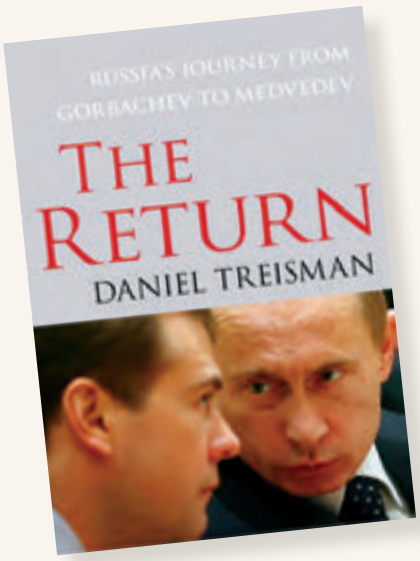
Steve Lee: "By developing a sequence of events that affect those with ADHD disorders, we can begin to establish the patterns that come before actual substance abuse problems begin."

"The Return" of Russia

A new book by political scientist Daniel Treisman explores the evolution of the Russian state as it faces an extraordinary range of national challenges.

By Kevin Matthews

Daniel Treisman first traveled to Russia in 1988, just before the beginning of sweeping change in Eastern Europe and the dismantling of the Soviet Union in 1991. Treisman, a professor of political science, has written *The Return: Russia's Journey from Gorbachev to Medvedev,* a book that covers much of the period he has spent watching the country. Treisman drew from memoirs, personal interviews, and other sources to look at Russia as a typical—though strategically important—country facing everyday 21st-century social, political and economic challenges.



The "return" that you describe in your book is Russia's return to the world two decades after the breakup of the Soviet Union. Yet Soviet Russia had a vigorous foreign policy. Before 1991, wasn't the country engaged with the world?

Right. Soviet Russia was not isolated in the sense that its leaders were not participating in international politics. It was the population that was isolated—locked behind barbed wire, unable to communicate with the outside. So, Russians as a whole have now been able to reengage with the world, especially the richer Russians.

What does this return look like?

In 2009, Russians made 22 million trips to countries beyond the former Soviet Union, up from practically no trips in the late '80s. They've become plugged into Internet networks, they have more than one mobile phone per person.

Russian entrepreneurs are buying companies around the globe, and Russia's leaders are feeling their way toward a role in the international system. What we see is a reengagement with the world at many different levels.

Foreign policy has also changed, obviously. The way that Russia has been involved in the world in the last 20 years has been more as a participant in the international game than as a spoiler—a power that seeks to fundamentally reconfigure the international scene and undermine the objectives of other players.

Are the Russian people freer than they were before?

We saw a really dramatic breakthrough to greater freedom and democracy in the early '90s, followed by a gradual reversion. So I would say it's something like two steps forward, one step back. Still, if we simply compare the last 20 years to other periods in Russian history, Russians have been freer than at any time going back at least to the 16th century—at least to before Ivan the Terrible.

Recently, Putin has gradually reduced freedoms and various kinds of civil rights. The media have become less free, and national television is both censored and self-censored and very supportive of the Kremlin. But I think the fundamental reason why Putin remains popular is that the economy in Russia has done extremely well. Incomes have risen at nine percent a year in real terms on average since 2000.

So are Russians able to choose their leaders?

Elections are far from completely free and fair; there's been major manipulation. But in each case this has been more a matter of over-insurance than changing the outcome.

There may come a point when the majority will no longer approve of those in power, and then we'll see whether the Kremlin leadership will be able to impose candidates on the Russian public. I'm really not sure that they'll manage.

At present, Putin's approval rating is still around 68 percent—Medvedev's is 63 percent. But both have been slipping for the past two years. Clearly they should be concerned about the trend.

Even as the economy has improved, Russia still has terrible mortality rates. You write that this is blamed mainly on vodka?

Alcoholism is, if not *the* primary cause, one of the major causes of the big increase in mortality in Russia since the early 1990s. My view is that increased alcohol abuse was caused in part by the end of Gorbachev's anti-alcohol campaign, and especially the fall in prices, which was quite dramatic. So serious alcoholics found themselves able to buy a very large amount of vodka—enough to literally drink themselves to death.

Many countries have gone through a similar type of problem during industrialization. Over time, people tend to substitute less lethal kinds of alcohol like beer and wine for vodka; recently we've seen a big increase in beer consumption in Russia. To some extent, this is a hopeful sign.

Over the last two decades, Russia fought wars to hold onto Chechnya. Are the underlying issues still present, and should we expect still more conflict?

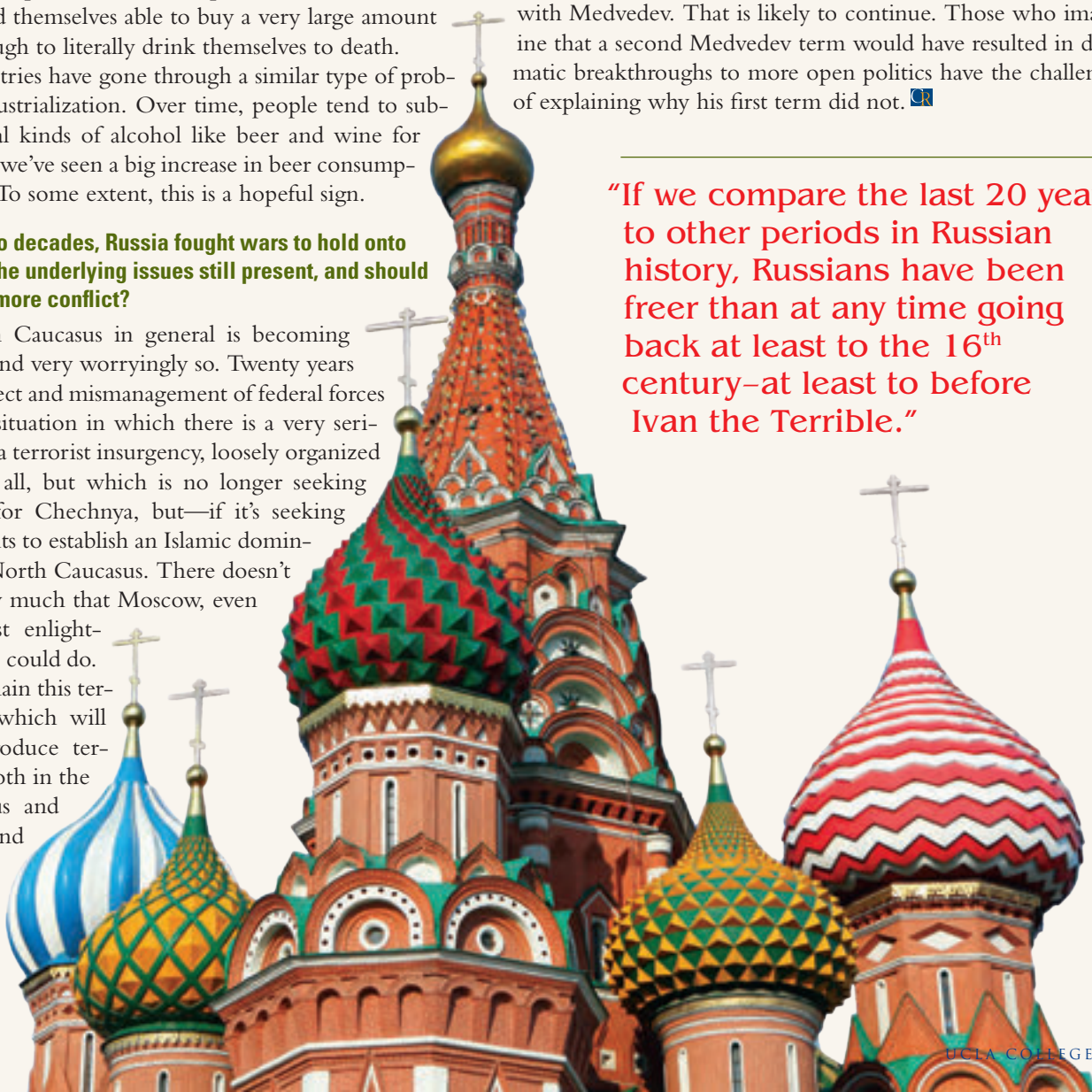
The North Caucasus in general is becoming more unstable and very worryingly so. Twenty years of war and neglect and mismanagement of federal forces have created a situation in which there is a very serious problem of a terrorist insurgency, loosely organized if organized at all, but which is no longer seeking independence for Chechnya, but—if it's seeking anything —wants to establish an Islamic dominion across the North Caucasus. There doesn't seem to be very much that Moscow, even under the most enlightened leadership, could do. It's likely to remain this terrible problem which will continue to produce terrorist attacks, both in the North Caucasus and in Moscow and Central Russia.

Daniel Treisman: "Russia has been involved in the world in the last 20 years more as a participant in the international game than as a spoiler."

Recently it was announced that prime minister Putin will run for president in next March's election and that, if he wins, he will appoint Medvedev as prime minister. Assuming it happens, what difference do you think this switch in jobs will make?

Putin's planned return to the Kremlin is a disappointment for those in Russia and the West who saw Medvedev as slightly more liberal. But I don't think the two leaders' game of musical chairs will, in itself, change much. The reality is that for the past three and a half years, since Medvedev's election, Putin has been making all the key decisions, usually in consultation with Medvedev. That is likely to continue. Those who imagine that a second Medvedev term would have resulted in dramatic breakthroughs to more open politics have the challenge of explaining why his first term did not.

"If we compare the last 20 years to other periods in Russian history, Russians have been freer than at any time going back at least to the 16th century–at least to before Ivan the Terrible."



Answers from Every Corner

A corps of dedicated graduate students serves as mentors for UCLA's undergraduates, guiding them through questions large and small to shape their academic careers.

"We're not just here to say, 'You've got to do better and study more.' We're here to help them figure out how."

By Alison Hewitt

It was three days before classes started when a group of international undergraduates wheeling their suitcases appeared at the walk-up Q-and-A window of the College Academic Counseling office.

The new students were fresh from the airport, feeling overwhelmed and unsure of where to begin. The College Academic Mentor staffing the window, a graduate student trained to handle all sorts of surprises, started with the basics and gave them all a campus map.

That map is an apt symbol of what UCLA's graduate-student College Academic Mentors do: they give undergraduates the guidance and resources to solve problems.

"We're like a hub of campus information, where you can find all the resources you need to get help or make an educated decision," said Mekeila Cook, a sixth-year public health graduate student who has mentored undergraduates through the College Academic Mentors program for four years.

The office's 21 mentors do work that ranges from answering simple technical questions about academics, such as whether a class will fulfill a general education requirement, to bigger life questions: what to major in, how to handle stress, or where to go after graduation. Mentors also seem to know every corner of the university, and point students to offices they may not have known: the Career Center; the Office for Students with Disabilities; the study-abroad office, and more.

The mentoring program, funded by the Division of Undergraduate Education in the College of Letters and Science, is especially needed this year: UCLA just enrolled its largest freshman class ever. The mentors, who earn tuition remission, work alongside full-time counselors but offer a unique perspective: because their own undergraduate days are usually just a few years behind them, they can connect with the students almost as peers.

The mentors are nominated for the jobs by their home departments, thus giving the counseling office additional connections across the campus, said Penny Hein-Unruh, the assistant vice provost of academic advising.

"We support one another," Hein-Unruh said. "And many of our mentors work half-time in their own department, so they're very knowledgeable."

The mentors even keep the counselors up-to-date on recent changes.

"These graduate students are amazing," said Bill Gordon, the College Academic Mentor program coordinator. Gordon, a full-time counselor, trains all the mentors and guides them throughout the year. "They help upperclassmen make their post-graduation plans, but mostly, they meet with first- and second-year students," Gordon explained.

Many students come to UCLA feeling stuck because they've planned all their lives to enter a specific field, such as medicine or law, but then find it's not right for them. Cook often talks with students on the medical-school track, who wonder why they feel like they're on the wrong path.

"They say, 'I know I want to be a doctor, because I want to help people,' but there's a plethora of options," Cook said. She clues them in to careers in public health, physical therapy, nursing, nutrition, neuroscience, environmental science, and countless other fields.

"When that light bulb goes on—that they can be involved in health and science and helping people without being a physician—then I know I've done my job."

Because the mentors are looking at a mentee as a whole person, not just a student, they uncover problems that undergraduates might not take to their professors, Gordon said.

"You might learn there's a family-owned business where they work 40 hours a week," Gordon said. "Once you know what they're up against, you can recommend university resources that will help them. We're not just here to say, 'You've got to do better and study more.' We're here to help them figure out how."

For students searching for a major, or struggling with the major they've chosen, sometimes the simplest question can open an entirely new world, Gordon added.

"Sometimes, no one's ever asked them, 'What do you like to do? What do you like to study?'" he said. "They'll say, 'What do you mean?' It's like a weight comes off their shoulders when they realize they can pick something they enjoy."

The mentors work with students through one-on-one appointments, group workshops, email, "virtual counseling" online chats, and the walk-up window.

In one of the mentoring programs, the Program for Excellence in Education and Research in the Sciences (PEERS), first-year students come in as a group that sticks together for two years with a single mentor. The program seeks to encourage underrepresented minorities to study science. Many of them are first-generation college students who turn to their mentor to demystify the college experience and guide students through things like how to chose a major, how to find their way through tangles of paperwork, and even where to find the nearest grocery store.

Left page: College Academic Mentor Mekeila Cook with Vanessa Rangel, one of her students in the Program for Excellence in Education and Research in the Sciences (PEERS). Above: Mentor Diana Ichpekova counsels an undergraduate.

Most of Cook's first PEERS group will graduate this year. Even though their participation in the program technically ended after two years, she still sees several of them regularly. She's been a mainstay for them their entire college careers.

"That's been really rewarding for me," she said.

Deborah Akinsilo, now a fourth-year, was one of Cook's original PEERS students.

"I was definitely nervous when I came to UCLA," Akinsilo said, and although she wasn't a first-generation college student like some of her PEERS friends, Cook has been a big help to her. "She's the one I always turn to when I'm freaking out about my classes or whether or not I'll be able to graduate on time."

Cook's challenge, as always, is finding the best approach for every student.

"There's so much variety," she said. "It always keeps you on your toes."

THE GREAT WALL
Renewed

Judy Baca is an artist acclaimed for her large-scale public murals, and the most ambitious project yet undertaken by the professor in the College's César E. Chávez Department of Chicana and Chicano Studies has reached a new plateau, after 37 years in planning, creation, and restoration.

The "Great Wall of Los Angeles"—2,740 feet of mural along the façade of the Tujunga Wash Flood Control Channel in the Los Angeles River—has been restored to its original luster, and grand plans for new work are underway.

Baca *(left)* conceived the project in 1974 that depicts the history of the peoples of California from prehistoric times to the 1950s. Painting started in the summer of 1976; the work required five intermittent summers and concluded in 1984 (painting is possible only in the dry months when the channel is clear). Involved in production of the Great Wall were local artists, historians, community members, and more than 400 students, many of them young offenders involved as part of their rehabilitation.

Created through Baca's Social and Public Art Resource Center (SPARC), the Great Wall runs more than a half-mile along the river adjacent to the Tujunga Greenbelt. The mural has been acclaimed as a testament to the spectrum of heritages that have been part of the local culture, from Chumash Indians to soldiers to settlers to farmers to defense plant workers.

Twenty-five years of pollution and sunlight dulled the mural's vivid colors, so restoration began in 2009 with sand-blasting, repainting, and sealing the surface with a protective acrylic coating that was completed in September 2011. Baca's recent UCLA students and alumni of work on the Great Wall from 30 years ago were involved.

Next for the Great Wall: an interpretive viewing bridge, constructed in part from debris found in the river basin. And Baca is planning to continue the mural on the opposite wall, with panels that highlight the 1960s to 1990s.

"The mural is not art simply as art," Baca said. "It's also an approach to art that has a strong relationship to place and community, as well as to the issues they're facing. Everyone finds a piece of themselves in it."

The Great Wall of Los Angeles is in the San Fernando Valley, on the west side of the Los Angeles River flood control channel next to Coldwater Canyon Avenue between Burbank Boulevard and Oxnard Street. To view the Great Wall, exit the 101 Freeway at Coldwater Canyon and go north one mile; park near Burbank Boulevard.

www.chavez.ucla.edu www.sparcmurals.org

TEACHING COMPUTERS TO SEE

Statistics professor Song-Chu Zhu studies artificial intelligence to help computers understand one of the most challenging skills of all.

By Kim DeRose

As a university student, UCLA professor Song-Chun Zhu was inspired to study artificial intelligence when a computer became an unlikely competitor in a regional chess championship.

"For computers to play chess with humans," said Zhu, "sounded like fairy tales to me and inspiring."

Yet while humans and machines were on equal footing when it came to chess, Zhu realized a far greater challenge lay in teaching computers a skill that comes naturally to most humans: understanding how to see.

"Tasks involving symbolic reasoning such as chess are completely disconnected from reality," said Zhu, a professor with a joint appointment in the College's Department of Statistics and computer science in the school of engineering.

"Humans understand what they see without thinking," said Zhu. "To process images on a basic level requires a tremendous amount of common sense," Zhu said. "Robots can beat a chess champion, but they cannot think like a five-year-old child."

Processing images by humans and the challenges for machines to do the same thing are apparent in a casual glance at UCLA students during the lunch hour. An observer in Ackerman Union sees busy students sitting at

Song-Chung Zhu: "Dreams play a major role in human learning, and by creating software models based on real footage, we enable the computer to dream as well."

tables, talking animatedly while lugging textbook-laden backpacks, cell phones, and athletic gear. The human eye takes in the structured chaos without a hiccup, as neurons in the brain identify objects and places, easily sorting the students from the tables piled with notebooks and sandwiches.

"The human brain is a massive parallel machine that is more powerful than any computer in the world when it comes to understanding images," said Zhu, who is principal investigator on major grants from the Office of Naval Research, the National Science Foundation, and the Defense Advanced Research Projects Agency.

"More than 30 percent of the 100 billion neurons in the human brain are involved in visual processing, while a much smaller fraction is required when playing chess or studying for exams."

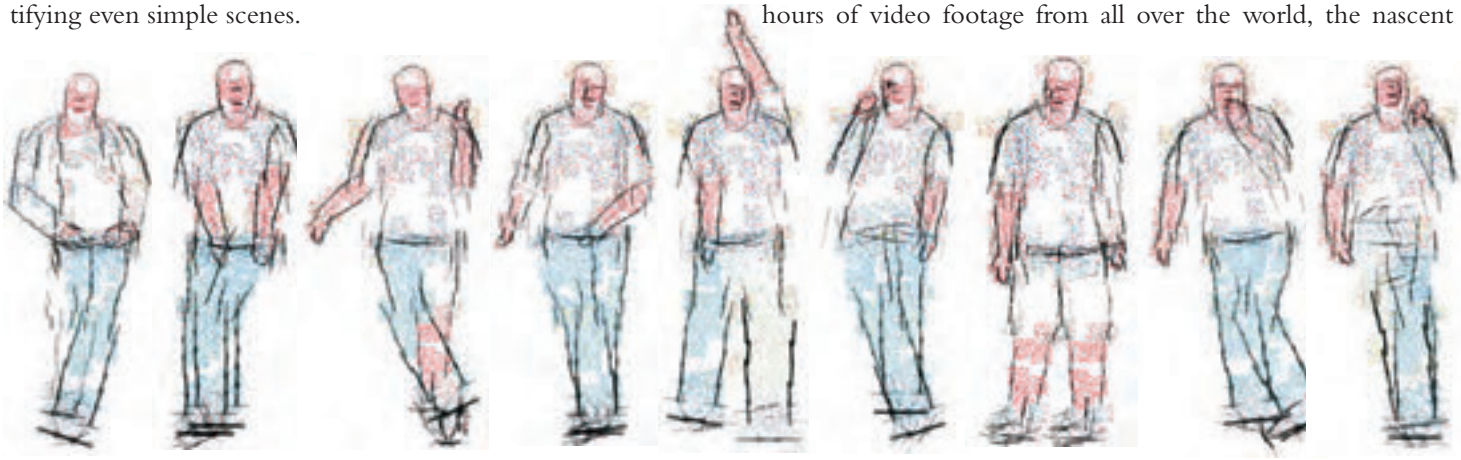
An electronic eye surveying the same scene would have much more difficulty; a table leg looks much like a human leg and a pencil could just as easily be a plastic straw or a chopstick. Zhu recognized that fledgling computer programs, not unlike young children, need a lot of guidance when it comes to identifying even simple scenes.

human eyes to watch it all, and I2T may one day fill that role.

Enlisting the vast database at its disposal in conjunction with advanced models of places and people, I2T is capable of identifying whether a location is a shopping mall or an office building through a process called 'scene categorization.' Zhu's most recent algorithms are even learning to recognize the gender, age, and social roles of nearby humans—an ability that may be critical for describing an emergency situation where, for example, a firefighter would be expected to behave differently from a bank teller.

Among the most difficult subjects for I2T to recognize are human beings and their behaviors. To the average electronic onlooker, UCLA students would appear to be veritable masters of disguise, obscuring their faces with hoods and sunglasses while sporting a variety of hairstyles and hats.

Much like a human toddler learns that a wall switch controls the illumination of a room without understanding the complexities of power grids or incandescent bulbs, Zhu hopes that his software will someday be able to infer similar connections between people and objects. By analyzing millions of hours of video footage from all over the world, the nascent



"Humans understand what they see without thinking. To process images on a basic level requires a tremendous amount of common sense. Robots can beat a chess champion, but they cannot think like a five-year-old child."

In 2005, Zhu founded the Lotus Hill Research Institute for Computer Vision and Information Science in Ezhou, China—its primary mission to collect and annotate images that help computers identify people, locations, and items from all angles. Breaking down each image into component parts that the computer can more easily digest, technicians have documented and categorized millions of photos: city streets, people, landmarks—even types of cupcakes.

While instructing a machine in the ways of human beings may seem a gargantuan task, the rewards could be just as monumental. A project in Zhu's laboratory titled "Image to Text (I2T)" builds a program to describe in words what it sees in an image or video. While still in its early phases, I2T has the potential to greatly simplify the monitoring of video observation by reducing the process down to a basic text search. With the prospects for analyzing footage in fields ranging from science to business to the military, there are simply not enough computer program may even learn to statistically predict future actions in an unfolding event.

To make the detection of people more reliable, Zhu and colleagues recorded thousands of photos on campus to develop a virtual model of the UCLA student. The scientists confirmed they were on the right track by evaluating what Zhu calls a 'computer dream,' a digital representation of the computer's idea of what a human being should look like, formed by statistically sampling features in passersby. The imaginings are surprisingly lifelike *(see the images above)*, incorporating different clothing, expressions, and poses that signify a nuanced understanding of the human form that cannot easily be replicated.

"As humans, we can close our eyes and imagine many things because all that knowledge is stored in our brains," said Zhu. "Dreams play a major role in human learning, and by creating software models based on real footage, we enable the computer to dream as well."

Barbara Fuchs is immersed in multiple roles on campus and in the community as the new director of the UCLA Center for Seventeenth- and Eighteenth-Century Studies, as well as the university's William Andrews Clark Memorial Library.

Looking for Unexpected Connections

By Mary Daily

Talk to Barbara Fuchs about her work and you'll quickly sense her enthusiasm for connections and the secrets to be mined in overlaps and "in-betweens." The new director of the UCLA Center for Seventeenth- and Eighteenth-Century Studies and the university's William Andrews Clark Memorial Library studies European cultural output from the late 15th through 18th centuries, with an emphasis on literature.

"In my field, we're constantly looking for unexpected connections," said Fuchs, who joined the UCLA faculty two years ago as Clark Professor. "There's huge interest in how literatures transcend national borders, and in tracing the steps of individuals who moved from place to place through migration or exile. Texts that we once saw as just literature actually contain a lot of history."

The three roles that Fuchs fills at UCLA—as professor, as director of the center, and director of the library—are complementary, and in addition to research and teaching include leadership of one of UCLA's oldest and most distinguished scholarly collections.

The center supports and develops research across the humanities in the 17th and 18th centuries, and also manages the Clark Library, home to the formidable collections of rare books and manuscripts deeded to UCLA in 1934 by William Andrews Clark, Jr., a prominent Los Angeles philanthropist. The library, located on grounds in the West Adams district near downtown Los Angeles, has grown substantially since it became the first major bequest to UCLA, and includes major holdings in English literature and history from 1640 to 1800, fine printing, and the world's most comprehensive collection of the works of Oscar Wilde *(the photos on pages 20 and 21 are of the Clark Library)*.

Each year the Center for Seventeenth- and Eighteenth-Century Studies offers a core program, with several conferences devoted to the same topic. This year's program, "Rivalry and Rhetoric in the Early Modern Mediterranean," focuses on intersections among early modern empires and how they are represented. The core program culminates in a published collection of essays and brings three or four fellows to the Clark as postdoctoral scholars. As Clark Professor, Fuchs heads the program and directs the visiting scholars.

"I'm eating, breathing and living all things Clark," she said.

In Fuchs' classes, students trained in a national tradition have to think outside their conventional zones.

"There's that moment," she said, "when I can see them thinking, 'Am I allowed to go here? Do I actually know anything about this?' But once they feel comfortable, they work quite wonderfully."

"My challenge is to show the students that the study of connections is about finding commonalities with periods that are very different from our own." Fuchs' courses on the history of East/West divides also sheds light on the background of current issues such as terrorism and revolt in places such as North Africa.

Fuchs, who grew up in Latin America, where she attended American schools, relishes the fact that many of her UCLA students are bilingual.

"When I'm teaching Spanish classes, for many of them it's their native language. They read like natives—they get all the jokes in the text. There's no question that it's a literature class," in contrast to many other institutions, where advanced foreign literature classes also serve as de facto language classes.

On occasion, Fuchs teaches texts in translation to reach a wider audience. Undergraduates, in particular, find early modern texts in translation more accessible than the original texts in their own language, said Fuchs, who holds a joint appointment as a professor in the departments of Spanish and English.

"Translators don't typically set out to replicate the difficulty of a distant text. They use modern language. Sometimes the students feel freed by that."

In Spanish, Fuchs teaches a course called "Impersonations" that examines questions of identity in early modern plays and biographies. When she asks students to list the categories of identity we use today, they begin to see similarities and differences between the periods. For example, one student included "documented, undocumented," a category of our own time, even if it might have early modern analogues.

Barbara Fuchs: "I want Los Angeles to be known as the fabulous place it is for early modern studies."

While Fuchs focuses primarily on the cultures of England and Spain, she welcomes her field's embrace in recent decades of the larger Mediterranean region and beyond. That expansion is reflected in the Center and the Clark Library, where Fuchs plans to bring in UCLA faculty to focus on areas such as colonial Latin America.

"My challenge is to show the students that the study of connections is about finding commonalities with periods that are very different from our own."

"I'm interested in having the Clark reflect more fully the areas in which UCLA holds tremendous expertise," Fuchs said.

She has begun collaborating with her UCLA humanities colleague, art historian Charlene Villasenor Black. In conjunction with an exhibition this fall at the Los Angeles County Museum of Art on the conquest of Mexico, Black will conduct a symposium, and the Clark will offer an early music concert and a reception and tour for symposium presenters. Cultural activities at the Clark already include lectures, chamber music and a poetry program, and Fuchs wants to add more *(for details on programs at the Clark Library, visit the website listed on page 20)*. She is currently in conversation with the head of UCLA's theater department, Michael Hackett, about staging performances at the library.

Fuchs also wants to bring more graduate students into the Clark and the Center through interdisciplinary seminars that will make use of the library's collections and "help bring the best graduate students to UCLA."

And, Fuchs is talking with representatives of the West Adams Heritage Association, which represents the Clark's neighborhood close to downtown Los Angeles.

"I want Los Angeles to be known as the fabulous place it is for early modern studies," she said, "and the cultural events we offer can also serve the community." CR

Thirty-Five Years of Early Starts

The College's summer programs for freshman and transfer students, which help new Bruins gain personal and academic confidence before they begin their university studies, celebrate a milestone.

By Alison Hewitt

For 340 incoming freshmen and transfer students, the first day of the Fall Quarter at UCLA this September was actually more like their 31st day of school, thanks to a program celebrating its 35th birthday this year that gives new students, especially first-generation college students, a head start on how college works.

Instead of wandering the campus among strangers on September 23, the "graduates" of the UCLA Freshman Summer Program and Transfer Summer Program were already connected to the campus, waving at friends on their way to class in buildings that now are familiar to them. To boost the transition to college of low-income, underrepresented, and first-generation students before their formal undergraduate studies begin, UCLA created the Freshman Summer Program in 1976, adding the transfer program in 1980.

After 35 years of serving new students, the summer programs now boast more than 23,000 alumni. "Many of these students didn't have someone in their family who went to college," said Charles Alexander, director of UCLA's Academic Advancement Program (AAP), the organization within the College of Letters and Science that runs the program. "This is a group that is transitioning not just into college, but to understanding college life."

To ease the adjustment, summer program students get a lot of one-on-one guidance before the school year starts. In addition to taking academic classes such as math and writing during the seven-week program (freshmen enroll in two courses; transfer students take three), peer-learning sessions with older students give new Bruins time to review material from each day's lessons.

After class, workshops teach about academic and life tools such as study skills, how to handle stress, and financial literacy to help them navigate financial aid and tuition. Other activities include a resource fair to introduce students to all the campus services available to them; presentations by student organizations about clubs to join; a picnic with program alumni; a blood drive; a talent show; and a cultural treasures program featuring the students *(see the photos above and right)*.

"We try to create a sense of community for them," Alexander said. "We stay connected and work with them even

after the program ends. They're eligible for a host of things we offer like peer mentoring, tutoring, academic counseling, programs and scholarships."

Adrian Mendoza, a transfer student from Pasadena City College, calls the summer program an "academic boot camp" that gives new Bruins a head start on their studies.

Mendoza, an anthropology major, had worked in other UCLA programs while a student at Pasadena City College, including the Center for Community College Partnerships, which helps students improve their academic competitiveness.

Even so, Mendoza recalls his "transfer anxiety" about enrolling in a research university—a worry shared by many.

"UCLA is much more challenging than community college," he said. "Many students ask, 'am I good enough?'"

Mendoza enrolled in the Transfer Summer Program, taking three courses in the six-week session, including an anthropology course on immigration patterns to the United States. The combination was an intensive immersion in the research university experience.

"The Transfer Summer Program was very challenging, but it gave me a great start and a competitive edge on my academic career," Mendoza said. "I started the regular academic year with a solid grade point average, and I became very familiar with all of the academic opportunities at UCLA. When the fall quarter started, I was confident about being here."

The summer program students live together in Rieber Vista, one of the residence halls. Many workshops take place on their floors, but classes are held on the central campus.

At the end of each summer, AAP surveys the students. "Students say the program demystifies college for them," Alexander said. "Even the ones who only came because their parents made them, by the end they say they are glad they came, because they didn't know what was going to happen."

But the most important thing they gain, Alexander said, is community and confidence. "People have doubts about their ability to perform at a place like UCLA," he said. "Students will tell you it's very demanding. When they find out how much they can be challenged and learn, yet still succeed, and they get a chance to bond with students who are like them, they gain a lot of confidence."

"Many of those students didn't have someone in their family who went to college. This is a group that is transitioning not just into college, but to understanding college life."

An Immigrant's Journey Chronicling the Lives of Others

"I have come a long way since 1984, when I was an immigrant from China with limited English proficiency and little knowledge of sociology. I had to endure many hardships and overcome numerous obstacles to establish a track record of which my colleagues, friends, and I feel proud."

—Min Zhou, in her book, *"The Accidental Sociologist in Asian American Studies"*

Min Zhou, first recipient of the Walter and Shirley Wang Endowed Chair in U.S.-China Relations and Communications, explores cultural questions that affect immigrants—issues that also had a profound influence on her own life.

By Robin Heffler

Like many of the immigrants and ethnic groups she studies, the life and career of Min Zhou have been driven by the political and social upheaval of her native country.

As a child during China's notorious Cultural Revolution of the 1960s, Zhou saw her parents sent to labor camps for "re-education," and she became the head of her household at age 10. When she graduated from high school, Chinese universities were closed, so it wasn't until years later that she obtained a bachelor's degree in English from Sun Yat-sen University, where she joined the faculty.

Then, when American sociologists visited her university, Zhou served as an interpreter, and she became fascinated with sociological concepts. In 1984 she came to the U.S. to pursue a master's degree and later a doctorate in sociology.

In 1989, political events intervened again in Zhou's life. While traveling, she learned of the violent military response to protests in Beijing's Tiananmen Square. Zhou feared a backlash against Western-educated academics; instead of returning to China, she found a faculty position in Louisiana.

In 1993, Zhou came to UCLA. She is now a professor of sociology, studying and teaching about a range of topics related to international migration, immigrant life and success, and Asian Americans and ethnic communities. In 2009, she became the first recipient of the Walter and Shirley Wang Endowed Chair in U.S.-China Relations and Communications.

A dedicated teacher and a prolific researcher, Zhou has written books about the social and economic potential of Chinese America, Chinatowns, immigration, and community transformation. She has also co-authored books about Vietnamese children adapting to life in the United States, and contemporary Asian America and Asian American youth.

Zhou may be best known for her thought-provoking study of New York's Chinatown. Her research revealed that despite poverty and lacking job skills and English proficiency, many new immigrants live in communities that support their economic development and adaptation to their new homeland. Zhou disagrees with those who say that immigrants are trapped in their communities, or "enclaves," as she refers to them.

"If you look at ethnic enclaves like Chinatown, you see mobility between the generations," Zhou said. "Many in the first generation stay in their enclaves because they feel if they speak English with an accent, people may not be as patient with them, or they know their cultural interests are different from those outside of the enclave. By the second generation, more than three-quarters of them are fully assimilated and the intermarriage rate is very high."

Another area of Zhou's research is based on the theory of "segmented assimilation" she developed in collaboration with sociologist Alejandro Portes from Princeton.

"While classical assimilation theory expects immigrants to eventually melt into the white, middle-class American mainstream, in segmented assimilation there may be multiple outcomes," Zhou explains. "This includes the classical model, but it may also be that immigrants assimilate into the mainstream without shedding their ethnicity. Or at the other extreme, they assimilate into the American underclass."

Min Zhou: "The students at UCLA are a joy because they are very diverse and bring their experiences into the classroom. So it's not just me lecturing."

Zhou came to the United States as a graduate student with only $50, and worked in Chinese restaurants, garment shops, and a hotel, and cleaned homes. Her students can identify with her struggles; their questions about Zhou's personal journey led her to write *The Accidental Sociologist*, which presents her story and highlights of her research.

Undergraduate courses that Zhou is teaching include the team-taught general-education cluster course "Interracial Dynamics," as well as individual courses on "Immigration and the New Second Generation," and "Chinese Immigration."

Zhou notes that many Asian American studies courses, including her Chinese immigration class, focus on analyzing a range of structural and cultural factors influencing outcomes of social mobility among ethnic minorities.

"Chinese immigrants do well because their migration has included a strong middle class, and those in the lower class can access the resources of this middle class—money, education, and businesses—in their ethnic community," she said. "By comparison, some immigrant minorities, such as the Latino community, don't have such resources to draw on, because less than 10 percent of first-generation Latinos have college degrees, while nearly half of first-generation Asians do."

Zhou who is also the Chang Jiang Scholar Chair Professor at Sun Yat-sen University, is pursuing new research: looking at the migration of Africans for work or business ventures to Guangzhou, southern China's largest city, and at emerging race relations and racism between Africans and Chinese in China.

Zhou is also a visiting professor at Central China Normal University, Nanyang Technological University in Singapore, and Korea University. But she most enjoys being at UCLA.

"It's the best," Zhou said. "It is intellectually stimulating, and the students at UCLA are a joy because they are very diverse and bring their experiences into the classroom. So it's not just me lecturing. They also help me to keep a more open mind, and be more sensitive to class, race, and gender issues."

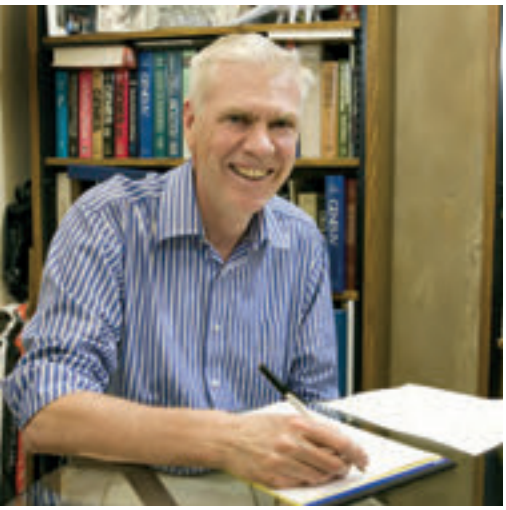
Biologist James Lake has spent his career taking the study of evolution in extraordinary new directions—work that earned him the 2011 Darwin Wallace Medal for advances in evolutionary biology.

A Revolution in Understanding Evolution

For biologist James Lake, his groundbreaking work studying some of the most complex phenomena of life across billions of years started with a simple motive.

"I was interested in how things happen," said Lake, "and evolution is so interesting."

Lake, the UCLA Distinguished Professor of Molecular, Cell and Developmental Biology and Human Genetics, has devoted much of his career to pioneering research that has created insights about the evolution of the simplest one-cell life into the most advanced organisms—findings that led to Lake receiving the 2011 Darwin Wallace Medal for major research advances in evolutionary biology.



James Lake. His work, said the Linnean Society in the citation for the Darwin Wallace Medal, "has made highly significant contributions toward understanding genome evolution across all kingdoms of life."

"Professor Lake has made highly significant contributions toward understanding diverse aspects of genome evolution across all kingdoms of life," read the award citation from the Linnean Society, the world's oldest biological organization. "The result has been a revolution in our understanding of animal evolution."

Lake, who has served on the UCLA faculty since 1976, conducts research that explores evolution across all kingdoms of life. For example, among Lake's research achievements was a breakthrough study, conducted with Maria Rivera, which found that complex cells like those in the human body probably resulted from the fusion of genomes from simpler microbes, ancient bacteria, and eocytes. The finding provides strong evidence that the combination of simpler organisms, which linked together in an effort to survive, led to the creation of more complex cells.

Lake and Rivera conducted their research as part of an program supported by the National Science Foundation and NASA Astrobiology to re-examine historical models for classifying Earth's living creatures, a process that was once based on easily observable traits. Microbes, plants or animals were said to be related if they shared certain, mostly physical, characteristics. DNA technology now allows much closer scrutiny of hereditary molecules, which provides a more accurate and detailed picture of the genetic relationships between and among living things.

Scientists refer to bacteria, archaea, and eocytes as prokaryotes—a cell type that has no distinct nucleus to contain the genetic material, DNA, or other specialized components. More complex cells, known as eukaryotes, contain a well-defined nucleus and compartmentalized organelles that carry out metabolism and transport molecules throughout the cell. Eukaryotes can be a simple as a yeast cell, or as complex as the highly specialized cells of human beings and other mammals.

"A major unsolved question in biology has been how eukaryotes evolve—where did humans come from?" Lake said.

To find the answer, Lake and Rivera analyzed and compared the genomes of 30 microorganisms selected from the four categories: eukaryotes, bacteria, archaea, and eocytes—organisms often occupying extreme environments. All of the microbes

www.mcdb.ucla.edu/research/lake

contained about the same number of genes. On computer, the researchers produced genome combinations that reflected the most likely ancestors of modern eukaryotes.

Their analysis showed that two ancient prokaryotes—one most similar to a bacterium, and one an eocyte—combined their genomes out of a mutual need to survive: modern eukaryotes obtained genes required to operate the cell from the bacterial side of the family, and the information-carrying genes came from the eocyte side.

"Higher life would not have evolved without this event," Lake said. "These are very important organisms. At the time these two early prokaryotes were evolving, there was no oxygen in the Earth's atmosphere. Humans could not live. No oxygen-breathing organisms could live."

Happily for humans, oxygen does exist—the result of a group of prokaryotes called cyanobacteria, which used the sun's energy to produce oxygen as part of photosynthesis. As early life developed, cyanobacteria were tremendously productive, pumping oxygen into the atmosphere and thus changing the conditions for how more advanced life would later evolve.

Lake's work on these issues also transformed one of the most common metaphors in all of science: the "Tree of Life" *(see illustration below)*. Lake suggests that the Tree of Life, with its evolutionary branches and roots that show groups of bacteria on the bottom and more complex multicell animals on the higher branches—turns out to be a misnomer.

"It's not a tree; it's actually a ring of life," said Lake. "A ring explains the data far better."

The concept of a ring of life has significant implications for eukaryotes, the group that includes all multicellular forms of life, such as humans, animals and plants. Lake's work provides an enlightened picture of the development of life that required hundreds of millions of years—including the creation of what Lake calls our evolutionary "parents."

"At least 2 billion years ago, two types of prokaryotes fused their genomes to form the first eukaryote, and in the processes two different branches of the tree of life were fused to form the ring of life," Lake said. "We have two 'parents,' and we now know who those parents were. Eukaryotes inherited two sets of genomes from very different prokaryotes."

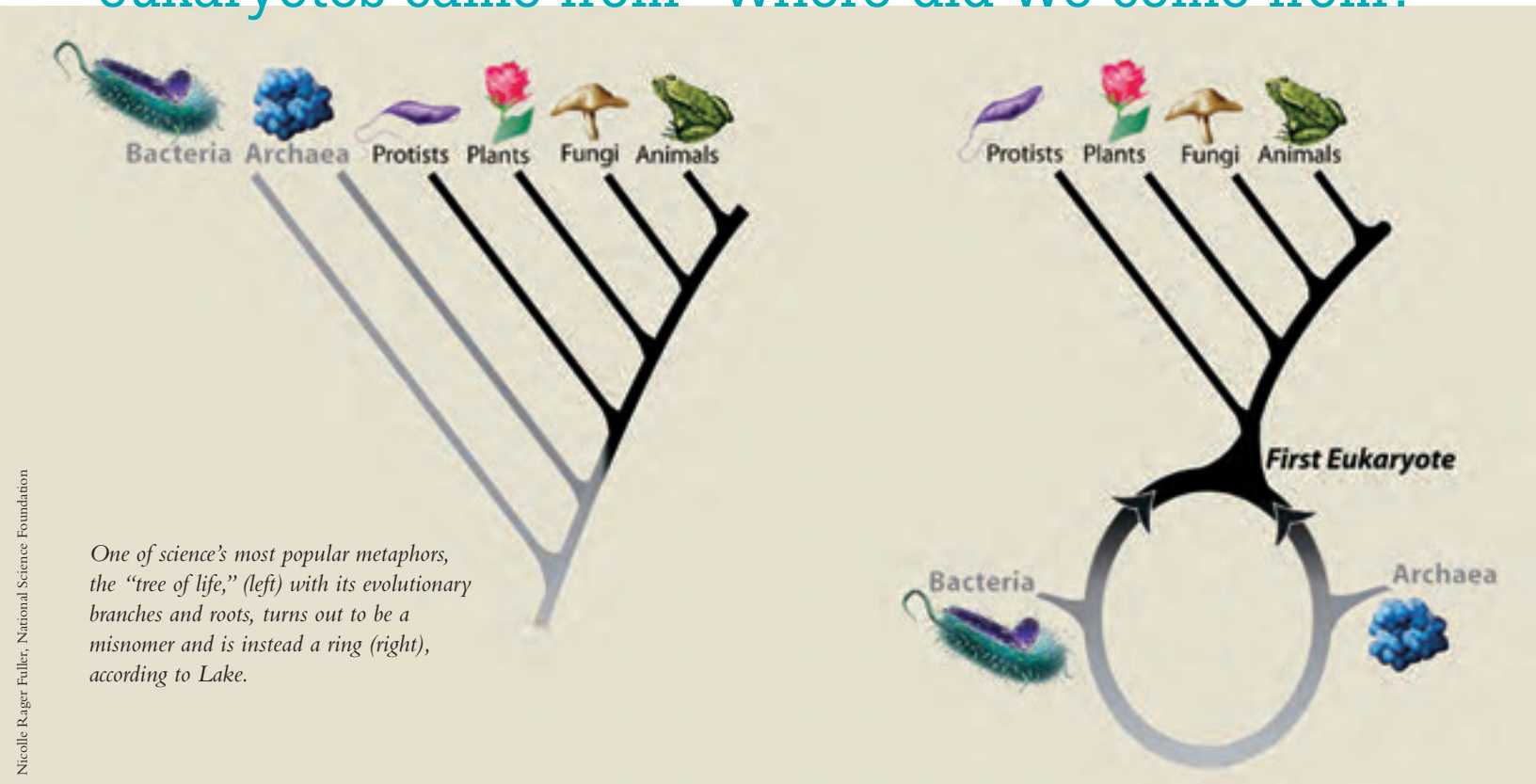
As with all profound science, breakthroughs can lead to even larger questions. Lake and colleagues in his lab are immersed in deciphering another unsolved evolutionary mystery: what was the last common ancestor shared by all life?

"Specifically, we want to identify the common ancestor of all life—where did it exist, what did it eat, and what enzymatic processes did it carry out?" Lake said.

Yet beyond the broad scientific questions about evolution, Lake can be philosophical about the biological progress that results when various forms of life randomly come together, with results that change everything that follows.

"We have been overlooking how important cooperation is," Lake said. "If two prokaryotes get together, they can change the world. They restructured the atmosphere of the Earth. It's a message that evolution is giving us: cooperation is a way to get ahead." CR

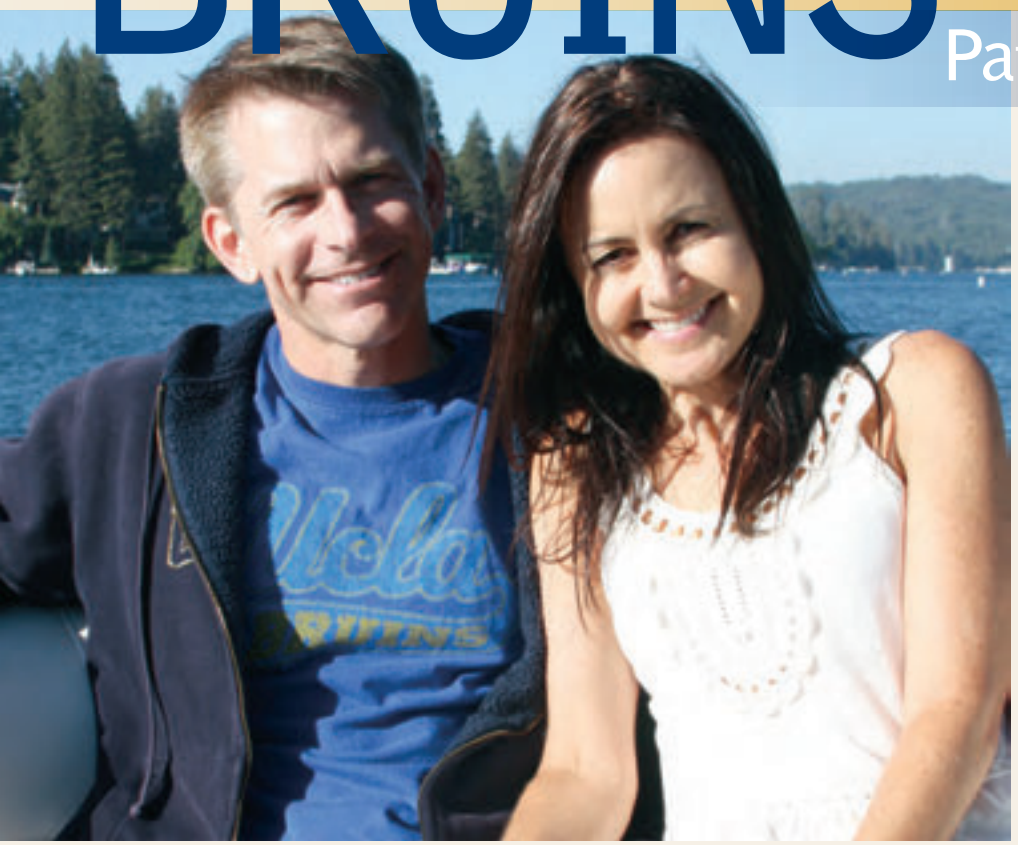
"A major unsolved question in biology has been where eukaryotes came from—where did we come from?"



One of science's most popular metaphors, the "tree of life," (left) with its evolutionary branches and roots, turns out to be a misnomer and is instead a ring (right), according to Lake.

Nicolle Rager Fuller, National Science Foundation

BRUINS Through and Through: Pat and Annette Welton



Pat and Annette Welton at Bruin Woods: "Our interactions with the outstanding UCLA students at Bruin Woods have played a big part in our philanthropic support," said Annette. "They have given us great faith in our decision to give back to the university."

In June 1982, Pat Welton drove his Bruin-blue Pontiac from Wisconsin to UCLA to take up his scholarship as the university's first ever M.D./Ph.D. student. When he got to Pacific Coast Highway in California, he stopped at a pay phone to call the medical school dean for directions, who advised him, "When you get to Sunset Boulevard, turn left and just keep going until you see a big UCLA sign on a stone wall. Turn right, and then look for Hedrick Hall."

Despite these bare-bones directions, Pat found the way to his temporary home at the residence hall—then his life changed forever when he stepped into the elevator. On the way up to the sixth floor, carrying a backpack and a box, he was introduced to Annette Johnston, who would later become his wife and business partner.

"Annette was literally the first person I met at UCLA," Pat recalled fondly.

Nearly 30 years later, Pat and Annette Welton are among the most loyal alumni supporters of the College of Letters and Science, and their philanthropy has touched the lives of many students. The Weltons have generously supported a broad range of areas in the College, such as graduate student prizes in the humanities and social sciences as well as scholarships for the Academic Advancement Program's summer program for UCLA-bound students from under-represented communities.

In the days after that first elevator ride, Pat and Annette learned they had a lot in common. Each had been raised in households of modest means. Their parents, all career public teachers, took on extracurricular teaching jobs to make ends meet. Pat and Annette each grew up with special appreciation of the importance and value of public education.

At UCLA, Pat spent hours in a research lab working on then-groundbreaking PET scan technology, and was also a teaching assistant in molecular biology. He went on to become a radiation oncologist in Northern California and served on the medical school faculty at Stanford for nearly 20 years. Annette's nursing degree led her to work in UCLA's pediatric intensive care and pediatric bone marrow transplant units. She then specialized in neonatal intensive care at Stanford.

In 1988, while Pat was a postdoctoral resident, the couple founded Welton Investment Corporation. Sparked by an early interest in commodity trading, they gradually transitioned from their medical careers, building a highly successful investment company. Pat is chief executive officer; Annette was the chief operating officer for 22 years and now serves as chairman of the board.

Although they had moved north, the Weltons' ties to UCLA strengthened when they began to spend summers at UCLA Alumni Association's family resort, Bruin Woods, with their children, Alex and Mikaela (now 19 and 17). Over the past 16 years, this treasured Welton family tradition has enabled them to form lasting friendships with many fellow alumni and UCLA student-counselors. "In fact," said Annette, "our interactions with the outstanding UCLA students at Bruin Woods have played a big part in our philanthropic support. They have given us great faith in our decision to give back to the university."

In 2008, the Weltons established the Welton Foundation, and turned the process into a learning experience for Alex and Mikaela to help them understand

the value of giving back. Annette noted that she and Pat plan to continue giving to UCLA as their foundation's philanthropic assets grow.

Pat said he sees their motivation to support UCLA as both personal and strategic.

"The personal motivation is more tangible: UCLA is where we met, so it has special memories for us," he said, adding, "it was important for us to give back to one of the university's greatest needs with the greatest impact: student support."

Linked to this is the strategic reasoning behind their philanthropy. Pat pointed out that UCLA is "one of California's greatest assets, with a multi-billion-dollar infrastructure." He said, "State taxpayers, research granting agencies, foundations, and private donors have all invested in UCLA. So by giving back, we also leverage the return on that investment—from the future productivity of students educated at UCLA, to the body and breadth of research produced there." Annette added, "We have enormous confidence in the leadership and vision of Chancellor Block, the College deans, and faculty. We want to provide philanthropic leadership so we can extend the impact of UCLA on society."

"UCLA is where we met, so it has special memories for us. It was important for us to give back to one of the university's greatest needs with the greatest impact: student support."

Lee Ohanian, professor of economics and director of the Ettinger Family Program in Macroeconomic Research, said that the graduate research prizes funded by the Weltons are among the most important gifts that the economics graduate/Ph.D. program has ever received.

"This kind of support has been remarkably helpful for attracting top graduate students," said Ohanian. "Within a minute of talking to Pat and Annette, I realized that they are people who have a rare combination of generosity in their support for UCLA, coupled with an intellectual interest in making sure that our university remains strong in the face of significant cuts in state support. They are Bruins, through and through."

It's worth noting that the Weltons' very first gift to UCLA was a check for ten dollars to the Dean's office in the David Geffen School of Medicine in 1988. Back then, that was a lot of money to Pat and Annette, who were still paying off student loans and counting every nickel and dime.

"So many people have benefited from UCLA," remarked Pat, "whether from its healthcare, research, education, or as an employer or community member. By supporting UCLA, we are sending the message that everyone can be a supporter, and you don't have to wait until later in life." He added, "The only thing you have to do is take a moment from your busy lives, and say, 'I can do this.'" CR

Pat and Annette Welton: A Legacy of Giving

Welton Scholars in the College of Letters and Science

Welton Scholars in the Divisions of Social Sciences and the Humanities

Welton Summer Scholars for the Academic Advancement Program

UCLA Welton Prizes in Economics

Economics Chair Discretionary Fund

Chancellor's Greatest Needs Fund

Pat Welton (left) with William Sharpe, UCLA alumnus and Nobel Laureate for Economics, at a recent UCLA event hosted by the Weltons.

An Environmental Advocate Endows a New Chair Named for John Muir

A lifetime of interests inspired by UCLA geography professors led alumnus Hollis Lenderking to create an endowment to honor one of America's original voices for conservation.

Hollis Lenderking '71 is an avid long-distance runner with a keen appreciation of the remote natural landscapes where he has logged hundreds of miles. Combining this passion with his intellectual interests, he established the John Muir Endowed Chair in Geography—a fitting tribute to the Scottish-born naturalist who was a towering figure in the American conservation movement.

Lenderking, who received a bachelor's degree in history at UCLA, worked in mediation and management for community associations. Lenderking competed for Team USA in the 100-km. World Cup, and has served USA Track & Field for the past 20 years by coordinating the Pacific Association's annual Grand Prix of ultradistance races.

But it was geography professors at UCLA who first kindled Lenderking's fascination with the interaction between people and nature—an intellectual pursuit he continues to explore.

"This interaction is at the core of geographic science," he explained. "Concepts such as carrying capacity, tipping point, and critical mass were not a part of the lexicon when I was a student. Now they are central to political and economic discourse, and by necessity so is geography."

Coming to UCLA from the sheltered milieu of a small preparatory school in 1967, Lenderking was initially overwhelmed, but said that he grew to appreciate its "broad and brawny intellectual canvas."

"UCLA is where I learned how to seek and pursue an academic quest, stubbornly and persistently," Lenderking said.

At that time UCLA was undergoing explosive growth amid a backdrop of student protest.

"Back then," Lenderking recalled, "the student impulse was to diagnose and solve the world's problems with heavy doses of theory. It was the days of 'Power to the People' and 'Viva la Revolución.'"

When it came time to choose a name for the endowed chair, Lenderking decided to defer to the geography department. He was delighted with the consensus of its faculty committee that the chair be named for Muir, one of the original driving forces behind environmentalism and wilderness preservation.

Committee member Stephen Bell, associate professor of geography and history, revealed Muir's appeal: "Geography examines the inter-relationships between natural and human phenomena, and as a discipline, it bridges the physical and social sciences as well as the humanities. John Muir's holistic quality in his approaches to nature is particularly inspiring to the geographers at UCLA."

Through his writings on nature, Muir shaped how Americans understand their relationships with the natural world. His personal experiences in California, especially in the Sierra Nevada mountains, were inspirational for his thinking. Among many distinctions, Muir founded the Sierra Club, and is honored formally by the state of California each year on April 21 for his role in the birth of the conservation movement.

Bell noted that the John Muir Endowed Chair in Geography is only the second endowed chair in the nearly 100-year history of the department.

"This chair is crucial to helping the department maintain the distinguished caliber of its faculty," said Bell.

For his part, Lenderking has no doubt about the value of UCLA faculty. He views his gift as a fitting acknowledgment of their role in instilling in him the importance of the lifelong pursuit of knowledge.

"UCLA teaches students how to remain students forever," Lenderking said, "and that is how we construct the future—instead of having it constructed upon us."

Photo: Bancroft Library, UC Berkeley

John Muir, the renowned naturalist for whom a chair endowed by alumnus Hollis Lenderking is named.

For information about supporting the UCLA College of Letters and Science, call Megan Kissinger, interim executive director of development, at (310) 206-0667.

Jim Varney, a gifted actor and comedian as comfortable playing Shakespeare as he was appearing in thousands of commercials as Ernest, the ever-annoying neighbor to "Vern."

"Jim didn't want others to have to struggle like he did, so he insisted that this scholarship be a full ride. Jim never did anything half-way."

From the Gift of Comedy Comes the Gift of Education

A fund established by the estate of actor-comedian Jim Varney is providing full scholarships to UCLA students from his home states of Kentucky and Tennessee so they can receive the education he never had.

Jim Varney was best known as the rubber-faced, comedic genius behind the dimwitted character of Ernest P. Worrell. Before Varney died of cancer in 2000, the Emmy award-winning actor laid the groundwork for a great act of generosity—the gift of the college education he never had. Since 2003, the Jim Varney Foundation has been awarding four-year scholarships to attend UCLA to students from his beloved states of Kentucky and Tennessee.

When he was a young actor performing Shakespeare and off-Broadway plays, Varney never dreamed that his gift for physical comedy would result in more than 3,000 commercials and several movies featuring Ernest, a clownish character who was always pestering his unseen neighbor, Vern, with unwanted advice ("know what I mean, Vern?"). Varney's career spanned dozens of other acting roles, including Jed Clampett in "The Beverly Hillbillies" movie and the voice of Slinky Dog in Disney's "Toy Story."

In 1970s Hollywood, Kentucky-born Varney found minor acting roles and early success as a stand-up comedian at the Comedy Store, alongside the likes of Jay Leno and Richard Pryor. But when acting work dried up during a strike, Varney returned to the south, settling in Nashville, Tennessee. He installed flooring and drove a truck to pay the bills while picking up occasional acting work, including the first Ernest commercials. Their phenomenal success made Varney an overnight sensation.

Bill Gibson, longtime friend and lead attorney of the Jim Varney Foundation, recalled, "With all of that success, Jim never thought of himself as a star. He preferred to hang out with the film crew during breaks."

Varney began to contemplate his legacy after he was diagnosed with cancer at age 48. He decided to support undergraduate scholarships at UCLA, for him a natural choice as a top public university in the entertainment capital of the world where his career began.

Varney himself was mostly self-educated, said Jane Varney, president of the Varney Foundation.

"Jim didn't want others to have to struggle like he did," she recalled, "so he insisted that this scholarship be a full ride. Jim never did anything half-way."

The Jim Varney Scholarship Fund supports financial aid-eligible students from Kentucky and Tennessee interested in the performing arts, who wish to complete an undergraduate degree in the College of Letters and Science.

UCLA recently boosted efforts to admit more out-of-state students, while maintaining its core commitment to serve California residents. Judith L. Smith, dean and vice provost for undergraduate education, said, "Bringing top students from outside of California to UCLA enhances the educational experience for everyone." With out-of-state tuition and living expenses on the rise, Smith noted that the Jim Varney Scholarship Fund has been especially valuable to its recipients and to the university.

Without the Varney scholarship, Tennessee-born dancer Laura Gardner '08 could not have attended UCLA.

"It opened up a whole range of possibilities for me," said Gardner, who studied environmental science and is now marketing director of a lighting firm.

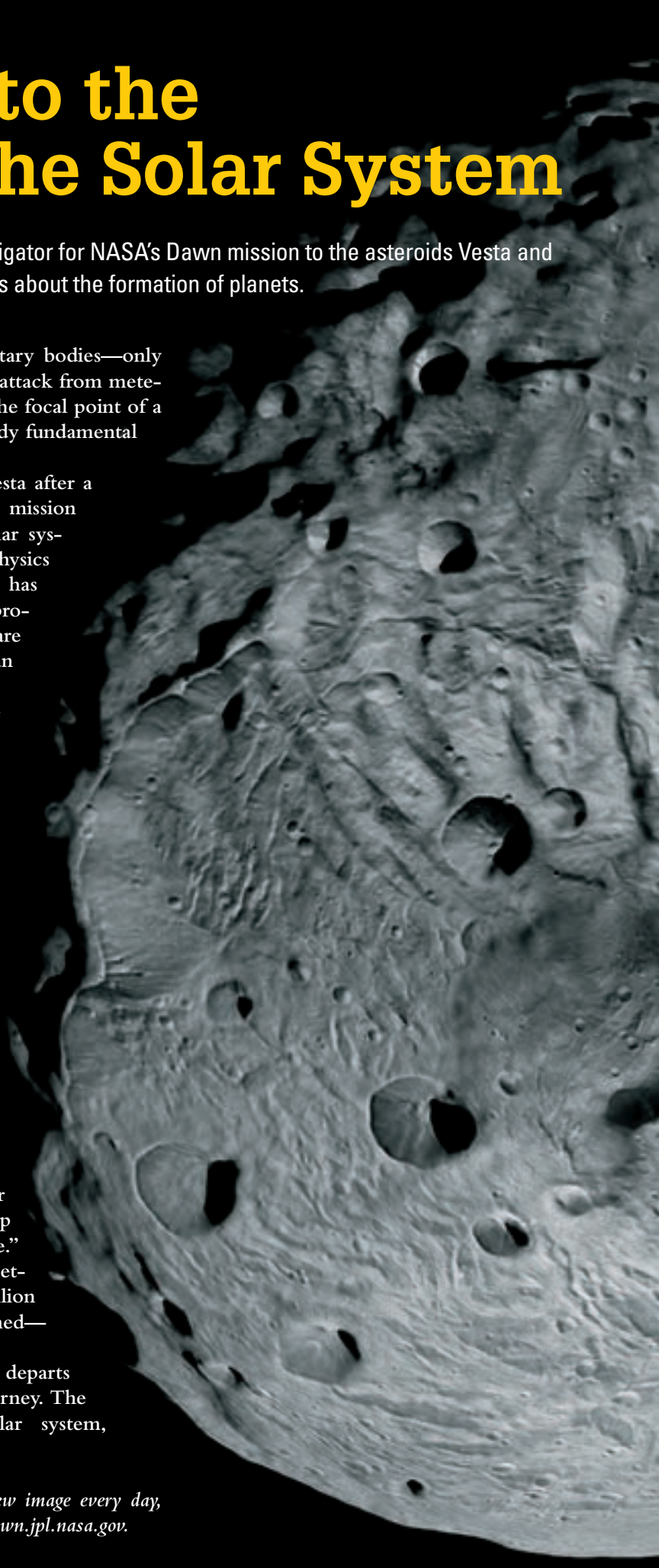
And Navid Pour-Ghasemi '10, an actor from Kentucky, was lured to UCLA by the comprehensive support of the Varney scholarship despite many other scholarship offers. He majored in German at UCLA and is now a first-year medical student.

"Truth be told," Pour-Ghasemi said, "I'm sad that I will never be able to meet Jim Varney in person, shake his hand, and somehow express my gratitude for all he's done for me."

Jim Varney would have been proud of all his Varney Scholars, and eager to share with them some of his own homespun philosophy: "Don't live your life with *ifs*— just do it." CR

Looking Back to the Beginning of the Solar System

UCLA researcher Christopher Russell, principal investigator for NASA's Dawn mission to the asteroids Vesta and Ceres, is looking for answers to fundamental questions about the formation of planets.



The asteroid Vesta is small compared to other planetary bodies—only 330 miles in diameter, its surface scarred by eons of attack from meteors and cosmic calamities yet to be understood. Vesta is the focal point of a NASA mission—with a UCLA-led science team—to study fundamental questions about how the planets were formed.

Since July 2011, the Dawn spacecraft has orbited Vesta after a 1.7-billion mile voyage from Earth—the first stop in a mission to closely examine the two largest asteroids in our solar system. Christopher Russell, a UCLA professor of geophysics and space physics and principal investigator for Dawn, has been waiting to reach Vesta since 1994, when he first proposed the project to NASA. Russell and his colleagues are looking to Dawn for insight on an array of topics that can explain how our solar system was created.

"I've been caught calling Vesta the smallest of the terrestrial planets," confessed Russell. "It's not just a rock. It was an active body at one time, getting bigger, growing, trying to do the same things that the Earth does. But it didn't have much gravity."

The unknown story of what happened to Vesta—where, scientists believe, volcanoes once raged, lava flowed, water once pooled and a cataclysmic collision with a huge object re-sculptured its surface—could come to light during the Dawn mission. The spacecraft's cameras, spectrometers, gamma ray detector, and other instruments are reaping data from Vesta's surface during precisely prescribed orbits that vary in altitude to give each instrument an optimal operational range.

Images from Dawn look promising, and some early surprises have already appeared. An image of Vesta sent from Dawn in early October shows a mountain rising 13 miles above the surrounding terrain—a peak three times as high as Mt. Everest.

"There's much more going on there than we ever expected," said Russell. "We didn't just find a broken-up rock out there. What we found is really a very rich surface."

"We're trying to study the smallest element of planethood," Russell said. "Can we go back in history 4.6 billion years when Vesta was formed—before the Earth was formed—to learn how these small bodies worked back then?"

After a year of work, in July 2012, the spacecraft departs Vesta, this time on a three-year, 930 million mile journey. The destination: Ceres, the largest asteroid in our solar system, in February 2015.

To follow progress of the Dawn mission—including a new image every day, briefings, background, and projects for children—visit http://dawn.jpl.nasa.gov.


"CAN WE SAVE THE ENVIRONMENT WITHOUT DESTROYING JOBS?"
Nick Rojas '13 believes we can.
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Sumptuous bronze mirrors produced in China over a span of 3,000 years are artistic masterpieces, their backs encrusted in jade, mother of pearl, and turquoise, and are decorated with animals, plants, human figures, and natural formations. A stunning new exhibition at the Huntington Library in San Marino includes some 80 bronze mirrors collected by philanthropist and UCLA benefactor Lloyd Cotsen; professor Lothar von Falkenhausen has assembled a prodigious amount of research on the collection, and edited the two-volume catalog for the exhibition.

"Ancient Chinese Bronze Mirrors from the Lloyd Cotsen Collection" runs through May 14, 2012. For details about the exhibition and von Falkenhausen's research, *see page 8.*