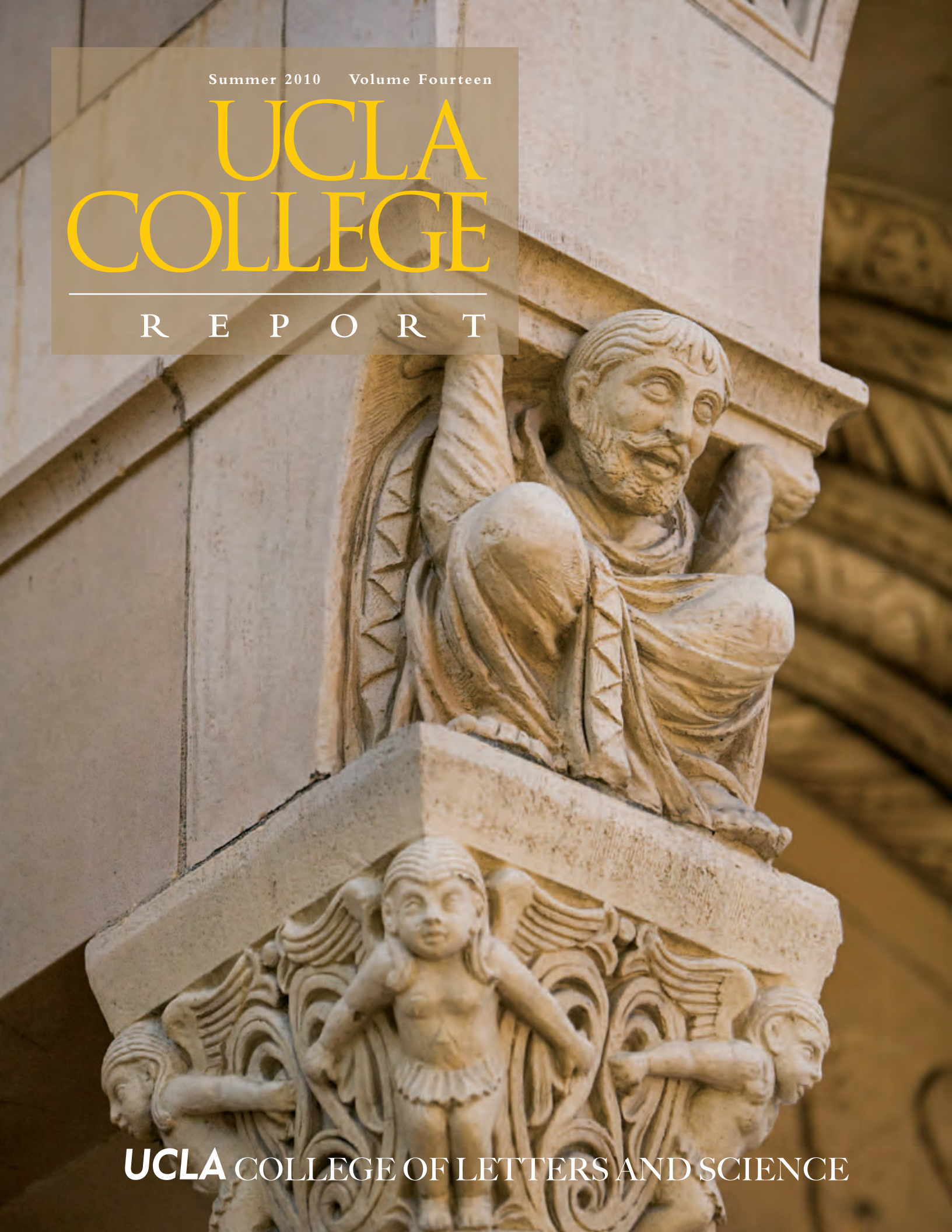
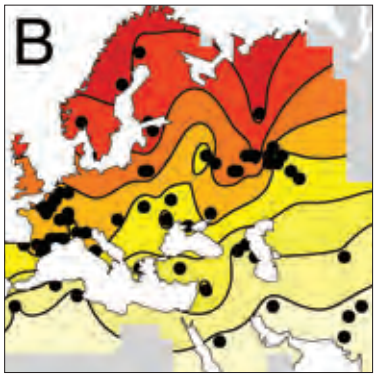
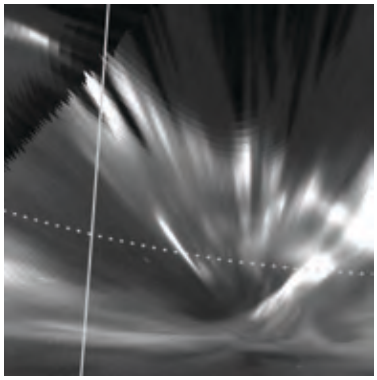
Summer 2010 Volume Fourteen

UCLA COLLEGE REPORT



UCLA COLLEGE OF LETTERS AND SCIENCE





Snapshots

Summer 2010 Volume Fourteen

UCLA COLLEGE REPORT

On the cover: close-up of the arch over the main entrance to Powell Library. Photo by Reed Hutchinson.

Please address comments to hlebo@support.ucla.edu

Looking to the Future

Dear Friends:

A major gift is always welcome news for a university—especially so in economically uncertain times. In May, the College received a truly extraordinary gift: $50 million from Paul Terasaki—the largest ever received by the College of Letters and Science *(see page 4)*. In recognition of this gift by Dr. Terasaki, the new Life Sciences Building has been named in his honor.

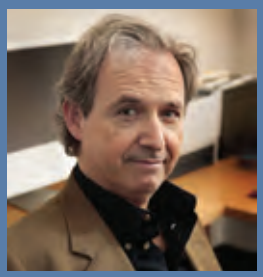
A gift of this magnitude does much more than offset the cost of a major building; it creates a broader effect by releasing funds that can be used for the direct benefit of the academic mission of the College.

Every dollar *not* spent on construction is a dollar that can be redirected to support undergraduate and graduate education, faculty and student research, and enhancing staff support. As a result, the gift by Dr. Terasaki has produced benefits for the academic program in the Life Sciences that will touch hundreds of faculty and thousands of students.

The Life Sciences have joined with a visionary beneficiary in Paul Terasaki, whose belief in giving back to the university that trained him and served as the home for his landmark work will affect generations of Bruins to come. Other opportunities for giving would also have such impact—in particular, funding the College's new Physics/Astronomy Building, or the beautifully restored Humanities Building (formerly known as Kinsey Hall, one of the four original campus buildings, situated next to Powell Library). Soon there will be opportunities to facilitate student learning by supporting a new learning pavilion for the Academic Advancement Program in Campbell Hall, and providing funds for a new social science complex.

We look forward to creating partnerships with other visionary donors.

Sincerely,



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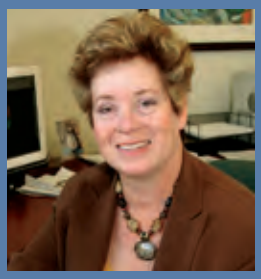

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Background on the Budget:

Student Fees: A Key Element in Securing the Academic Enterprise

The fees paid by students to attend UCLA serve a vital role in ensuring the quality of the university's academic program—and also provide support to other students who could not afford to attend without it.

Funding an academic organization with the size and scope of the College of Letters and Science requires a mix of funds from many sources—among them the state budget, donor gifts, endowment interest, and grants *(for the previous budget article, see www.bruinlink.ucla.edu/budget.pdf)*.

A key revenue source that continues to grow in importance is student fees—funds that are ensuring that UCLA can thrive as state revenue declines.

"Why are student fees so important to funding the College? Because they represent one of the primary sources of revenue as the state budget shrinks," said Judith L. Smith, vice provost and dean for undergraduate education in the College.

"Because of student fees, we can maintain the quality of our educational programs in spite of continued economic uncertainty in the state."

Student fees not only support the academic enterprise, but also help to fund the education of their fellow students.

"One-third of student fees are mandated by the UC Regents to help support other students on financial aid," said Smith.

"Many students are able to attend UCLA only because of the financial support they receive through fees paid by other students (known as return-to-aid.) Thus students themselves create greater access to UCLA through their fees."

Emeritus chancellor Charles E. Young championed this concept during his time as UCLA's chief executive in his "high fees/high aid" campaign.

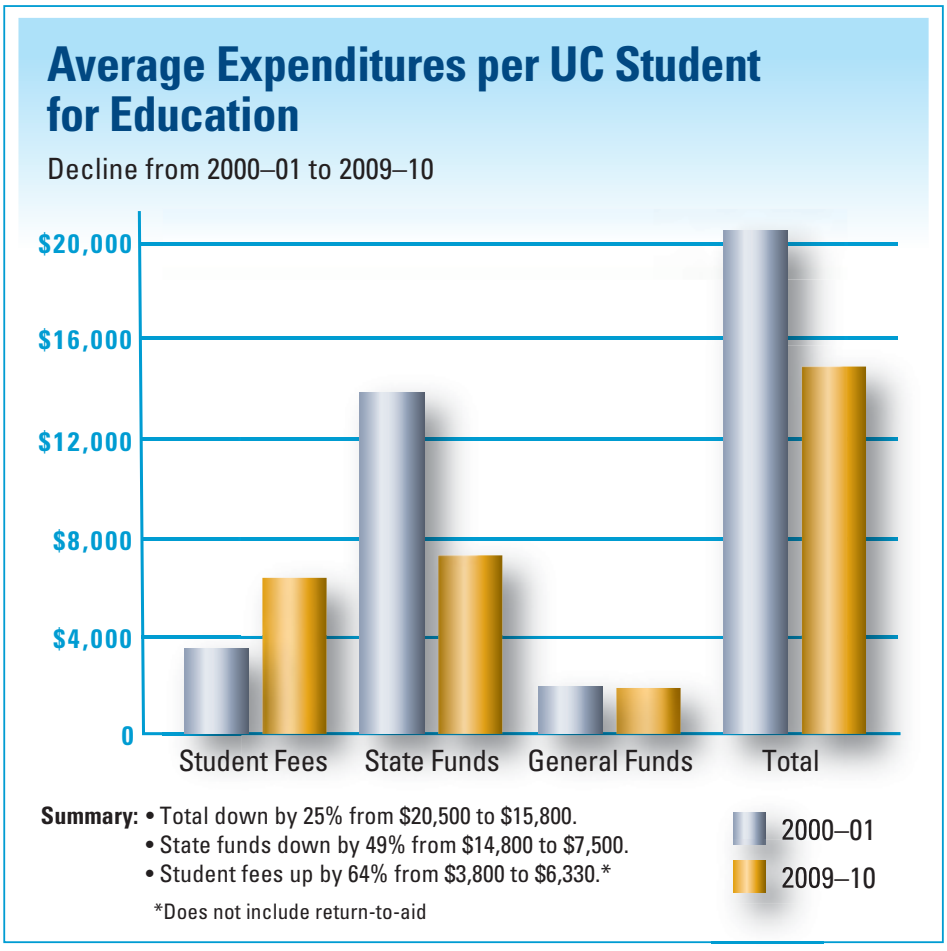
Overall, revenue generated by the student workload in the College of Letters and Science totals about $240 million; $80 million is automatically used as student return-to-aid. In addition, another approximately 33 percent goes to the College's portion of the common costs of running the university, such as the campus libraries, admissions and registration functions, student academic support, utilities, and campus security.

The other third—$80 million—is used to defray the education costs within the College. This includes about 38 percent of the College's annual spending for education, which includes the costs of instruction (faculty and TA salaries), as well as the staff that assist the faculty.

Those student fees used for educational spending are particularly vital as state revenue for public universities continues to decline. With state funds down by 49 percent since 2000, student fees take up a growing portion of the gap *(see chart)*.

"We will continue to cut costs and develop other sources of revenue," said Smith. "But the ongoing challenge for the College leadership is to ensure that we continue to maintain a high-quality education even as state revenue sources continue to decline. Student fees play an increasingly important role in the mix.

"At the same time, it is critical that scholarship availability for students, as well as state CAL Grants, federal Pell grants, and UC return-to-aid funds remain high to ensure access to all student populations."



Paul Terasaki Donates $50

Paul Terasaki, an alumnus, UCLA faculty member, and developer of tissue-typing for organ transplants, has given the largest gift ever received by the College of Letters and Science.

In 1948, Paul Terasaki enrolled at UCLA as a transfer student, encouraged by his family to study in medical fields instead of becoming a radio repairman.

Terasaki chose a path in scientific research. "I was not suited to be a good doctor," he said. "I was more comfortable working on problems to be solved in the lab."

In the six decades since, Terasaki has become a three-time UCLA graduate, the father of three Bruins, a renowned UCLA faculty member, and the developer of landmark advances in medical science that have contributed to saving thousands of lives.

Now, he has become the donor of the largest gift ever received by the College of Letters and Science. Terasaki has given $50 million to the Division of Life Sciences in the College.

In recognition of the gift, UCLA's new Life Sciences Building will be named the Terasaki Life Sciences Building.

Terasaki is a pioneer in organ transplant medicine who in 1964 developed the test that became the international standard method for tissue typing, a procedure that assesses if organ donors and recipients are compatible. For the past 40 years, all donors and recipients of kidney, heart, liver, pancreas, lung, and bone marrow transplants have been typed using the tissue typing test Terasaki developed.

"The Terasaki Life Sciences Building is a metaphor for what UCLA is doing in the Life Sciences," said Victoria Sork, dean of life sciences. The building includes 33 laboratories, where hundreds of scientists will conduct state-of-the-science research integrating such fields as cell biology, neuroscience, genomics, and stem cell research. The building is scheduled to open in October.

"Most advances in medicine are rooted in the life sciences," Terasaki said. "That background opened the door to my research and proved vital to my medical discoveries."

Said Sork, "The Terasaki Life Sciences Building is designed to enhance interactions among scientists with different tools, approaches, and ways of thinking. Scientists across disciplines share computation approaches that benefit from exchange. The new life sciences provide the foundations for understanding biomedical innovations, applied human health problems, and biodiversity challenges. Interdisciplinary collaboration of the kind we will see in this new building is the key."

Terasaki's generosity to UCLA goes back years and touches many parts of the university. In 2001, he established an endowed chair in U.S.–Japan relations, and in 2006, he and his wife contributed $5 million to UCLA to promote better understanding between the United States and Japan at the renamed Paul I. and Hisako Terasaki Center for Japanese Studies at the UCLA International Institute.

"I owe my whole career to UCLA," Terasaki said. "UCLA gave me the opportunity to do the research that led to the development of tissue typing. At many other universities, I would not have had that kind of freedom in the lab."

What would Terasaki have thought in 1948 if he had been told that one day he would give $50 million to UCLA and have one of the major buildings on campus named for him?

"It would be impossible to think about that—to think that I would ever donate anything to UCLA would have been impossible," he said. "It's quite a distance I've travelled."

Million to the Life Sciences

"I OWE MY WHOLE CAREER TO UCLA.

UCLA gave me the opportunity to do the research that led to the development of tissue typing. At many other universities, I would not have had that kind of freedom."

Paul Terasaki

What Went

An acclaimed new book by UCLA economist Roger Farmer explores the evolution of the most severe economic

"I understand that always bailing out banks provides incentives that encourage risky behavior, but the consequences of not bailing them out would have been much worse."

UCLA economist Roger Farmer was in England at a conference on "The Great Moderation"—the idea that the economy had become much more stable since 1980—when the bottom started to fall out of the market.

Mervyn King, the governor of the Bank of England, was supposed to be the host of the event, but he never turned up, and Rachel Lomax, the bank's deputy governor, disappeared many times throughout the evening. The next day, Farmer, who has served as the chair of UCLA's department of economics since July of 2009, learned that the Bank of England was negotiating with Northern Rock, the first financial institution to collapse in the current economic crisis.

In his new book for general audiences, How the Economy Works: Confidence, Crashes and Self-Fulfilling Prophecies *(Oxford University Press), Farmer attempts to make sense of the bewildering series of events that followed.*

What caused the current recession?

Stock market wealth accounts for roughly three-fifths of all tangible wealth in the United States. The other two-fifths is in houses. In the fall of 2008, people lost confidence in the value of both of those types of assets at the same time. They stopped spending, firms laid off workers, and the drop in wealth was self-fulfilling.

How is this crisis similar to the Great Depression?

There have been 10 recessions since World War II, including the current one. In every previous recession, the Fed immediately cut interest rates to stimulate demand. But now the Federal Funds Rate—the interest rate on overnight loans—has fallen to zero. The Fed has run out of ammunition, it can't lower the rate any further. The same thing happened in the 1930s.

Do you think the Fed was right to bail out the banks?

Yes, I do. I understand that always bailing out banks provides incentives that encourage risky behavior, but the consequences of not bailing them out would have been much worse.

What is your opinion of President Obama's stimulus plan?

Government as a whole responded to the crisis in two ways: one is the fiscal stimulus, which in my mind is just robbing Peter to pay Paul. The other is unconventional monetary policy or "quantitative easing."

The reason that mortgage rates are historically low right now is because the Fed has been putting money into the mortgage markets by buying the debt of Fannie Mae and Freddie Mac. In my view, quantitative easing was more important than fiscal policy in preventing a deeper recession and it has been largely responsible for the recovery of the stock market over the last year.

When will the economy rebound?

I think the recession will be called over formally sometime in July, August or September of last year. But employment will not return to its 2007 level until 2012 or 2013.

The stimulus plan did provide some short-term benefit. The patient is on medication, and we've seen some improvement. When we remove the medication, we're risking a relapse.

WRONG?

downturn since the Great Depression, and proposes how similar crises can be avoided.

What are the chances of a double-dip recession?

The chances are 50-50. If inflation starts to pick up in our major trading partners such as China, there is a danger that it will be passed onto U.S. consumers. If inflation picks up in the U.S. when unemployment is at still at 8% or 9%, the Fed is going to face a difficult dilemma. There will be pressure to raise short term rates to help prevent inflation. That will choke off the nascent recovery. But if the Fed does nothing, we could easily get back into a situation five years from now with high unemployment and high inflation together. The same thing happened in the 1970s. It can happen again.

What do you recommend for the modest investor?

For anyone who is young, this thing is going to blow over long before you need the money. But for anyone close to retirement, I would be extremely dubious about having money in anything risky at all.

How can we prevent these kinds of crashes in the future?

In the build-up to this crisis, I agreed with the people who said that the market was overvalued and should be dampened in some way. But I don't agree with the method that they had for doing it, which was to raise the short-term interest rate.

The Fed should control fluctuations in the stock market by buying and selling blocks of shares; the best way would be to trade an index fund like the Russell 5000. They should do this independently of their control of the overnight interest rate by paying for stock purchases with newly created Federal Reserve debt. That provides a mechanism to insulate changes in the money supply from changes in share purchases.

But isn't that a managed economy?

Yes. But, we've never lived in a totally laissez-faire economy—and certainly not since the inception of the Fed in 1913. Since then, we've been actively intervening to maintain one price—the short term interest. What I'm proposing isn't that different from what already is going on now. It's a simple extension of quantitative easing. I'm advocating that we actively intervene to maintain two prices, not one: an overnight interest rate and the price of a stock market index.

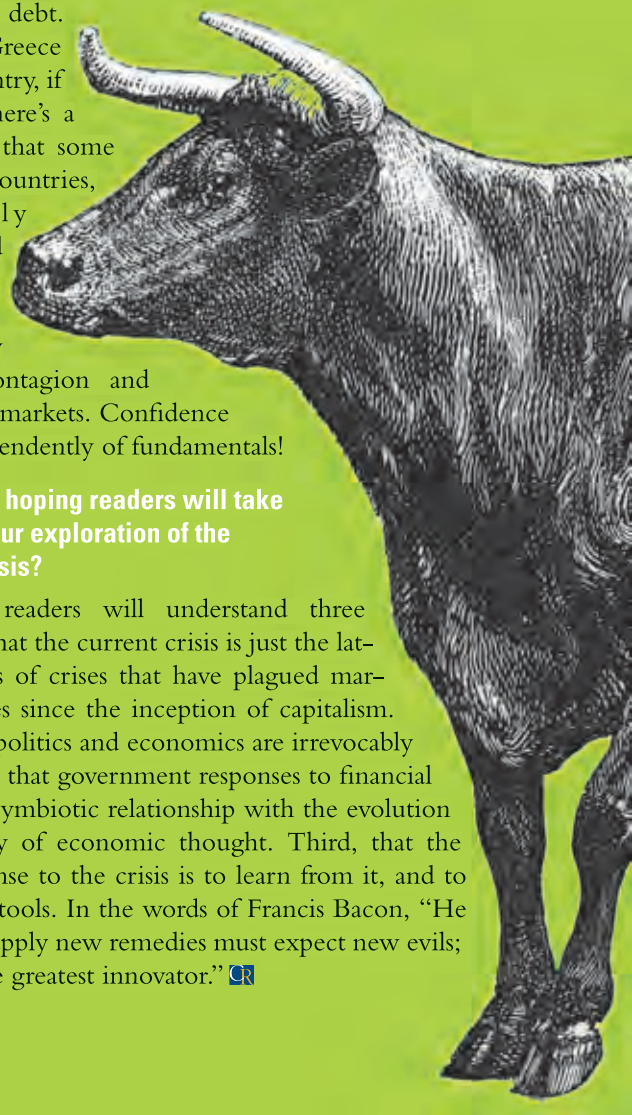
Roger Farmer

With China and other countries owning so much of our debt, and us having such a large trade deficit, to what extent can anything we do inside our country help to cushion our economy?

Trade is important to the U.S., but exports account for less than 15% of our Gross Domestic Product. So much of what we do is still internal to us. I hope that if the kind of stabilization I propose is seen to be effective in our country, it will be copied in other countries. And wild euphoric swings in markets that have deleterious effects on employment will, I hope, become a thing of the past.

How vulnerable are we to another big financial crisis?

People often talk about contagion in financial markets. When a small event occurs in one market, it causes a loss of confidence in other markets as people panic. They all jump out the window together. One situation to look out for is default on Greek debt. Although Greece is a small country, if it defaults, there's a real concern that some other larger countries, particularly Spain, could follow. If that happens, it could easily feed into contagion and panic in U.S. markets. Confidence matters independently of fundamentals!



What are you hoping readers will take away from your exploration of the economic crisis?

I hope readers will understand three things: first, that the current crisis is just the latest in a series of crises that have plagued market economies since the inception of capitalism. Second, that politics and economics are irrevocably entwined and that government responses to financial crises have a symbiotic relationship with the evolution of the history of economic thought. Third, that the correct response to the crisis is to learn from it, and to develop new tools. In the words of Francis Bacon, "He that will not apply new remedies must expect new evils; for time is the greatest innovator."

Shifting from Pure Theory

John Novembre analyzes data to understand patterns of genetic variation in humans, such as the geographic spread of a rare genetic mutation that provides resistance to HIV (far right).

"This is an incredibly exciting time to be doing research on population genetics. For the first time, technological developments are making it feasible to look at large scale genetic variation in humans."

By Aaron Dalton

If you met someone from Europe who was tall, blond and fair-skinned, you might not have too much trouble deducing that your new acquaintance originally hailed from Scandinavia or elsewhere in Northern Europe.

But would you be able to pinpoint this person's ancestral home to an accuracy of a few hundred miles?

In 2008, UCLA assistant professor of ecology and evolutionary biology John Novembre led a team of researchers in publishing a *Nature* article demonstrating how DNA analysis of hundreds of thousands of points on the human genome could identify a person's geographic homeland. Novembre's main contribution was on the analytical side; working with colleagues at Cornell, GSK, and the University of Chicago, Novembre developed the algorithm that crunched the data on the variation of DNA from the genomes of 3,200 Europeans and placed 90 percent of them within about 500 miles of the center of their country-of-origin.

As Europeans migrate around the European Union, Novembre admits that it will be challenging to use genetic data as a sort of birthplace GPS. But for the purposes of understanding the evolutionary history of human beings, the individuals included in the study provide a window into the past.

"The genetic patterns that are specific to particular regions will be lost over time, but for most of human history, individuals had very localized mating patterns," said Novembre. The study revealed how subtle patterns of genetic variation exist within Europe, with differences tied much more tightly to specific geographic locations than to broad linguistic regions (Germanic, Romance, Slavic, etc.).

But outside of being able to determine that a random European acquaintance came from a specific location, what implications does Novembre's study of human population genetics have for the rest of us? A deep knowledge of the variation in genetic populations is crucial when it comes to untangling the genetic basis of complex diseases.

As an example, for researchers who are trying to isolate some genetic risk factors for heart disease by looking at one group of people who have heart disease and another group that don't, Novembre's research suggests it is more important than previously supposed to have both groups of patients come from the same geographic area.

"This is an exciting time to be doing research on population genetics," said Novembre. "For the first time, technological developments are making it feasible to look at large-scale genetic variation in humans."

Indeed, the new technological tools are taking theoretical population genetics out of the realm of pure theory and mathematical modeling and allowing researchers to compare their models against thousands of real-world human gene sequences.

These interests are not new for Novembre—he describes himself in high school as a "computer programming geek" who found himself intellectually intrigued by biology. As a college undergraduate, Novembre became interested in molecular evolution and found that computer programming was an important skill in that field. Population genetics gave him a chance to combine his fascination with biology with his enjoyment of the day-to-day challenges of computer programming.

"For someone like me, UCLA is a very exciting place," said

to the Real World

Biologist John Novembre uses new tools to create advances in the study of the genetics of human populations.

Novembre in explaining his choice to join the university two years ago. "Few universities have on one campus such strong departments of human genetics, evolutionary biology, biomathematics, and anthropology. We have strong statistical geneticists and bioinformaticians across multiple departments, and a Center for Society and Genetics. I interact with a lot talented people."

Since arriving at UCLA, Novembre has had the opportunity to branch out from human population genetics to work with fellow evolutionary biologist Bob Wayne on the genetic analysis of wolves and other canids. Together, Wayne and Novembre recently published a paper in the journal *Nature* showing gene-based evidence that most dog breeds appear to be originally domesticated from wolves in the Middle Eastern region.

Novembre has also been working with Ken Lange in human genetics and Lange's student David Alexander to develop a faster method for determining the geographic backgrounds of people with mixed ancestry. For instance, Latino populations often have ancestors who came from Europe mixed in with indigenous Native American ancestry.

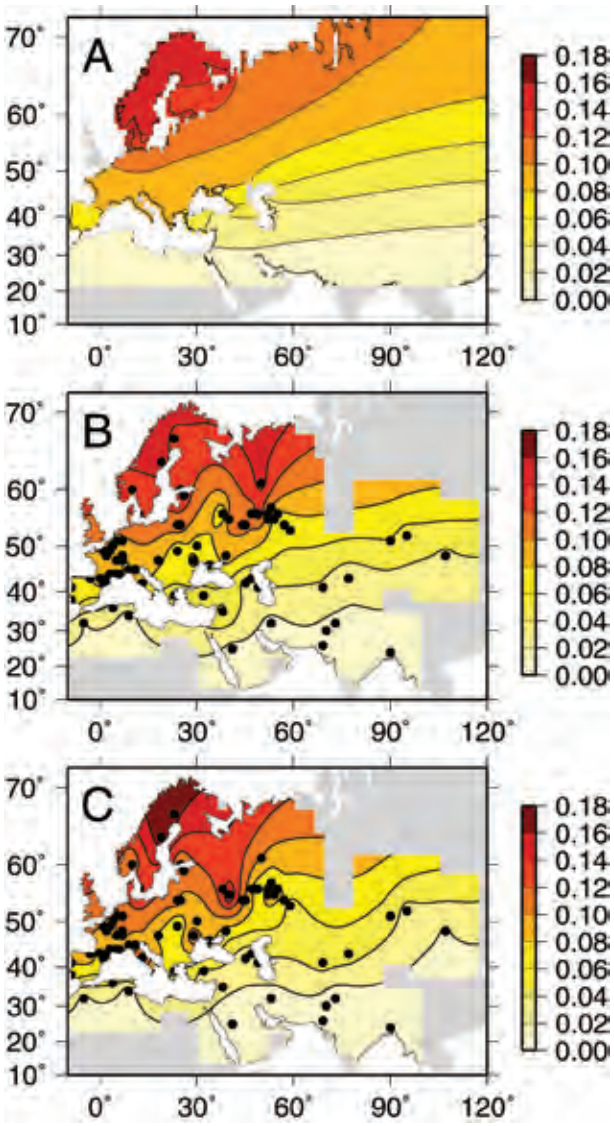
Such analyses typically try to determine what percentage of a person's genetic makeup comes from ancestral African, European or Native American sources. In the past, the analyses were based on relatively small data sets—perhaps just ten locations on the genome. But recent technological advances allow researchers to analyze literally hundreds of thousands of locations on the genome.

With such vast amounts of data, "you can identify patterns that you had no hint of before," said Novembre. However, given the size of the new data sets, the old methods of analysis were no longer practical. So Novembre, Lange, and Alexander developed a new and much faster way to analyze the data while maintaining the high levels of statistical sophistication from the previous model. Excitingly, other researchers have already begun using this new method of data analysis.

Novembre's work has him looking at a number of interesting issues. He is involved in the genetic analysis of people like Sorbs and Sardinians who are believed to have been relatively genetically isolated for hundreds to thousands of years. Meanwhile, he and Wayne will continue their work on dogs and wolves. They have assembled a team to sequence the wolf genome and compare it to the dog genome to see the differences that changed dogs from aggressive predators into the fuzzy little partners and friends of man that we know today.

Since genetic research is applicable to every corner of the animal kingdom, Novembre will also be working with Thomas Smith from ecology and evolutionary biology on collecting data from migratory birds, tracing the birds back to their breeding ranges in the far reaches of North America. The resulting analysis should reveal migration patterns that could ultimately prove useful for both bird conservation and monitoring the spread of bird-borne disease such as avian flu.

Birds, canids and people—we all have genetic data that constitutes a rich gold mine of information. It's a treasure that researchers are beginning to bring to light with the help of mathematical models like those that John Novembre continues to develop and improve.



For 40 years, ethnic studies programs within the College have provided new perspectives on issues of diversity in hundreds of courses, seminars, and special opportunities that enrich the undergraduate and graduate experience at UCLA.

By Dan Gordon

The Strands that Come Together

Four decades ago, UCLA established research centers to foster research on the issues that affect African Americans, American Indians, Asian Americans, Chicanas and Chicanos, and their communities. As UCLA celebrates the anniversary of these research centers, an equally important element in the university's mission is being commemorated: 40 years of ethnic studies programs and departments in the College that focus on the student experience, and the courses and specialized offerings they provide for undergraduates and master's degrees.

"The ethnic studies programs in the College create new dimensions in the academic experience," said Judith L. Smith, dean and vice provost for undergraduate education.

"These programs promote diversity and a sense of pride among groups that have historically felt excluded in higher education," said Smith, "while providing a broad range of courses on culture and ethnicity that benefit all students."

Each of the four ethnic studies programs or departments develops a wide range of courses for majors and minors in their fields, as well as for all UCLA students who choose to take them as electives. For example, the scope of faculty who teach in the César E. Chávez Department of Chicana and Chicano Studies results in a curriculum that covers topics as broad as immigration studies, cultural and legal history, literature and culture, border and transnational studies, immigration, economics, and gender and sexuality issues.

Similarly, the Interdepartmental Program in Afro-American Studies has classes covering everything from literature, religion, history, and sociology to women's studies, political science, education, communications, arts, and culture.

In a California Indian history course taught by Felicia Schanche Hodge, director of the Interdepartmental Program in American Indian Studies, students hear guest lecturers such as Leroy Shingoitewa, chair of the Hopi Tribe, speak on a spectrum of subjects—from the Treaty of Guadalupe-Hildalgo to the colonization of the tribes. Other courses offered by the program cover topics ranging from legal aspects of American Indian sovereignty and health disparities affecting indigenous populations to theater and music.

Courses offered through the Department of Asian American Studies cover an equally diverse range of topics. "The large number of faculty engaged in Asian American studies at both the research and teaching level has given us one of the broadest curriculums in the United States," said Lane Ryo Hirabayashi, chair of the department.

Hirabayashi believes the autonomy granted to Asian American Studies is a key factor in its strength. It gives the department control over full-time faculty hires—currently five full-time scholars—along with the ability to make split appointments—11 core faculty split time between Asian American Studies and other departments and schools across campus.

"Many universities now offer an Asian American Studies curriculum, but it is usually either housed within a traditional discipline or a smorgasbord of courses from all over the campus," Hirabayashi said. "The self-determination we have as an autonomous department allows us to design everything from our structure to the content of courses in a way that we see as most beneficial to our students."

In the same way, institutional support for Chicana and Chicano Studies at UCLA over the past two decades has enabled it to flourish, said Alicia Gaspar de Alba, chair of the Chávez Department. In the early 1990s, after a student-led hunger strike that demanded departmentalization of Chicana/o Studies, the campus administration created a unit called a Center for Interdisciplinary Instruction, and hired six faculty, including Gaspar de Alba, who have guided its growth ever since.

"The ethnic studies programs in the College create new dimensions in the classroom experience for our students. These programs promote diversity while providing a broad range of courses on culture and ethnicity that benefit all students."

The Center became a full-fledged department in 2005, houses 12 faculty, and is now launching a graduate program with a Ph.D.—only the second in the nation.

The ethnic studies programs and departments serve as a unifying force for students who share a particular racial/ethnic and cultural background, and can have a major impact on student recruitment and retention. For instance, having a center that offers not only a curriculum but a fully staffed library and special events has gone a long way toward ensuring that American Indian students at UCLA feel at home, and that tribes view the campus as a welcoming place.

"Every year we get calls from tribes who want to bring their students here to learn about the campus with an eye to attending UCLA," Hodge said. "There is nothing more important for recruiting and retaining American Indian students than giving them a sense of place and a core group of students they can identify with."

The ethnic studies programs and departments enrich the academic experience not just for students with the racial or ethnic background of the group being studied. Brenda Stevenson, chair of the Interdepartmental Program in Afro-American Studies, points out that the majority of students in the courses offered by the program are not African American; thus, the program serves to inform the larger community of the historical and contemporary experiences of African Americans.

"We're all Americans but we all have different experiences," Stevenson said. "Our program helps students from other racial and ethnic backgrounds understand what these different experiences are and how they connect or don't connect with their own, adding to the richness of our notion of who we are as a society."

For African American students, the program adds depth to their knowledge of their heritage—an academic foundation that inspires as many as 40 percent of the program's undergraduate majors to go on to work toward their Ph.D.

"Many African American students think they know the history, but they lack the complete picture," Stevenson said. "The African American experience is not just about enslavement and Jim Crow, although these are bedrock issues. It is diverse, and it's important for these students to learn about all of the strands that come together to bring us to this place."

Gaspar de Alba noted that the Chicana and Chicano undergraduates who take one of her department's general education courses are excited to learn—often for the first time—about the rich history of people of Mexican descent in the United States.

"Mainstream public education tends to be targeted toward the middle-class Anglo-American, and so many of our students come out of that educational system feeling disconnected from the world around them. When they start taking our courses, they begin to feel like they belong. They see that they have so many classes to choose from and so many books they can read, and they realize that there is a lot of material about them and their culture that they didn't know existed. It gives them a real sense of empowerment."

Felicia Schanche Hodge (left), Lane Ryo Hirabayashi (above), Alicia Gaspar de Alba (right), Brenda Stevenson (top right).

Shane Butler, Debora Shuger, and many other UCLA scholars are creating a new view of Latin studies by fo

Rediscovering the

By Aaron Dalton

Ask someone to name a Latin author, and the first names that come to mind would be the giants of the Roman Empire—Virgil, Lucretius, or Ovid among them. But opportunities for academic study of great works in Latin didn't end 2,000 years ago; Latin remained the preeminent language of literature, law, medicine, and the arts for centuries after the fall of the Roman Empire, and major works were written in Latin into the 1800s.

"No other language has had the global reach or intellectual scope of Latin," said Shane Butler, professor in the Department of Classics and associate dean of the humanities. "The history of medicine, the social sciences, and the humanities are all rooted in Latin of an age much more recent than Rome."

"If you were an English scholar in 1600 and you wanted an international audience for your works, you wrote in Latin," said Debora Shuger, distinguished professor of English. "English was known to nobody other than English people."

Shuger and Butler are both experts in the field of Neo-Latin studies, the study of the use of Latin during the 14th to 17th centuries—a time roughly corresponding with the Renaissance in Europe. That era is particularly appropriate since Shuger, Butler, and their colleagues at UCLA are bringing about a renaissance in Latin studies by focusing attention on the incredible wealth of unstudied material that appeared long after the Roman Empire, and is now just waiting to be rediscovered.

"The study of works in Latin from long after the Roman Empire is incredibly important for law, literature, history, art history, and national culture. Ninety percent of the Latin texts from the Renaissance have never been available in translation."

Shane Butler

What sort of long-forgotten material might Neo-Latin scholars reveal?

As just one example, Shuger discovered a biblical Renaissance tragedy she feels is as powerful as Shakespeare's masterpieces. The play was written in Latin by a Scotsman living in France. That play is only the tiniest tip of the iceberg when it comes to lost Latin dramas. Shuger said scholars know hardly anything about an entire repertoire of Latin plays that the Jesuits produced during the 17th century in a dramatic tradition akin to opera.

cusing attention on the incredible wealth of unstudied material that appeared centuries after the Roman Empire.

Untold Treasures

"The study of works in Latin is incredibly important for law, literature, history, art history, and national culture," said Shuger. "When de Soto wrote for the first time about the legal rights of the individual, he wrote in Latin. There are Latin texts about the conquests, the rights of Native Americans, about humanism, intellectual history, astronomy, and mathematics.

"Isaac Newton, Rene Descartes, and some others have been translated, of course, but 90 percent of the Latin texts from the Renaissance have never been available in translation."

At the heart of this project is the knowledge that exploring Neo-Latin pertains to the study of everything else during the same time period. To understand Shakespeare, it helps to know that Hamlet's ghost is quoting a Latin prayer for souls in purgatory. Similarly, the poet Boccaccio, whose work is usually read in Italian, was proudest of his Latin works.

"The texts confront fundamental questions," said Butler. "For instance, as far as we can tell, Angelo Poliziano, a Latin writer who lived in Florence in the 1400s, was the first person to use the phrase 'I express myself' *('Me exprimo')*. This is an idea that we regard as modern—the least common denominator of what we need to *be* ourselves. The very essence of common, shared values of Western modernity can be traced back to Latin texts."

UCLA has one of the richest collections of Latin medical texts in the rare book collection of its biomedical library.

Contemporary technology—the Internet and digitized manuscripts from far-flung libraries—have made Neo-Latin treasures more accessible than ever before. However, the irony is that researchers will inevitably hit a brick wall if they do not have the skills to decipher the untranslated original Latin texts. That's why Shuger, Butler, and UCLA colleagues that include Brian Copenhaver (director of UCLA's Center for Medieval & Renaissance Studies), Tim Stowell (dean of Humanities), Michael Allen (Distinguished Professor of Humanities), and Massimo Ciavolella (Italian, Comparative Literature) are creating a post-baccalaureate program to train a new generation of Neo-Latin scholars.

Later this year, Butler and Shuger plan to recruit students with college-level Latin competency—students with bachelor's degrees hoping to go on to graduate school, or graduate students already at UCLA pursuing doctorates. Building on what the students already know about classical Latin, the professors will introduce their students to the Neo-Latin writings from the likes of Descartes, Leibniz and Petrarch.

Debora Shuger

Inevitably, the students will arrive in the Latin sections of the UCLA library, which extend far beyond the shelves dedicated to the relatively few texts that survive from antiquity. There the students will find the *Patrologia Latina*, a 19th-century effort to reprint all major Christian Latin writings up to the 12th century. Printed in tiny font, the *Patrologia Latina* runs over some 300 volumes, each as big as a phone book. There is also a similar-sized *Patrologia Graeca* that contains the texts of early Greek Christianity, which it reprints in the original language, and then translates into Latin.

"In many cases these volumes have not circulated in a century," said Butler. "The students will see that they don't need the Internet to find research material, they can start right in our own library. Right here, we have a whole world that we have lost contact with."

There is truly a lost continent of Neo-Latin works waiting to be discovered. The cartographers of this lost world are mostly isolated, each working on their own corners of the map. But at UCLA, Shuger, Butler and their colleagues are leading the effort to train and equip a team of researchers and scholars with the tools to rediscover untold treasures and secrets from some of history's greatest minds. CR

An Explosion of Light

Using images from the NASA THEMIS mission, a UCLA research team has identified new and dramatic phenomena associated with the aurora borealis.

It seems that the beautiful and seemingly delicate phenomenon known as aurora borealis—the northern lights—has a violent side to its makeup as well.

At northern latitudes in the U.S. and Canada, the shimmering bands of the aurora borealis stretch across the sky from the east to the west. These multicolored light shows are generated when showers of high-speed electrons descend along magnetic field lines to strike the Earth's upper atmosphere.

Discoveries made possible by analyzing images supplied by NASA's THEMIS mission have produced a startling discovery about the aurora borealis: sometimes vast curtains of aurora borealis collide, producing spectacular outbursts of light.

"Our jaws dropped when we saw the movies for the first time," said Larry Lyons, UCLA professor of atmospheric and oceanic sciences and a member of the research team that made the discovery. "These outbursts are telling us something very fundamental about the nature of auroras."

Explosions of light known as substorms occur when the magnetosphere suddenly releases stored solar wind energy. Substorms start from a small region in space but within minutes cover an immense region of the magnetosphere. Different possible triggers have different locations, so the key to solving this mystery is placing spacecraft in various locations in Earth's magnetic field to help find the elusive substorm point of origin.

Larry Lyons with researcher Heejeong Kim.

With a motto of "Understanding Space Weather," NASA's THEMIS mission (Time History of Events and Macroscale Interactions during Substorms) aims to resolve one of the oldest mysteries in space physics: why do auroras occasionally erupt in substorms? THEMIS includes five identical satellite probes, developed in cooperation with the Canadian Space Agency, and 20 all-sky imagers deployed across the Arctic to photograph auroras from below while the spacecraft sampled charged particles and electromagnetic fields from above.

Understanding and predicting space weather is important to describe the environment in which spacecraft and astronauts operate and ensure their safety. Just as hail and tornadoes accompany the most severe thunderstorms, substorms accompany the most intense space storms—those that disrupt communications, cause power line transmission failures, and produce the most penetrating radiation.

Over the last 40 years, substorms have been studied extensively from the ground and in space. However, the sequence of events during a substorm has remained elusive and has been a key subject of debate among scientists who study the physics of the near–Earth space environment.

The breakthrough came earlier this year when UCLA researcher Toshi Nishimura assembled continent-wide movies from the individual ASI cameras.

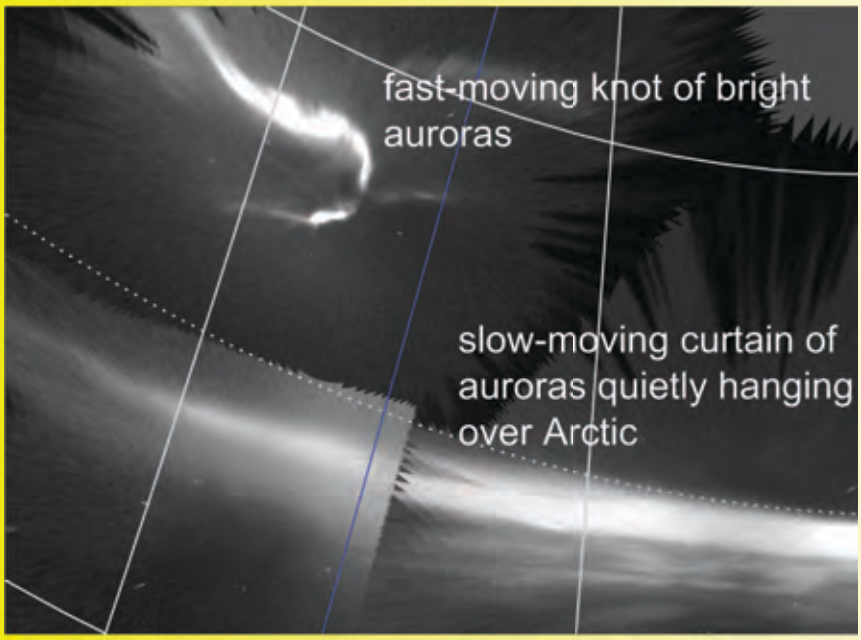
The first movie he showed Lyons was of a pair of auroras crashing together in December 2007.

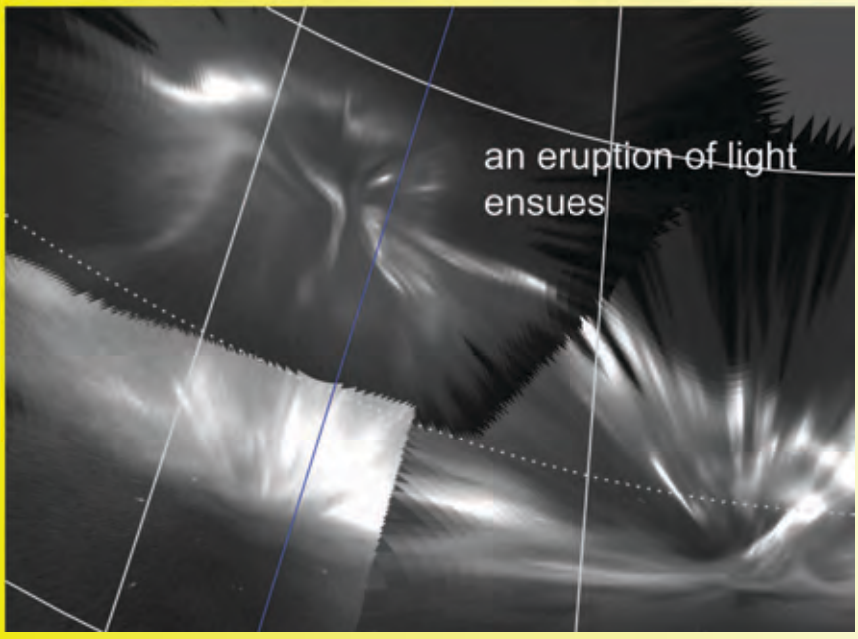
"It was like nothing I had seen before," Lyons recalled. "Over the next several days, we surveyed more events. Our excitement mounted as we became convinced that the collisions were happening over and over."

The explosions of light, the researchers believe, are a sign of something dramatic happening in the space around Earth —specifically, in the Earth's "plasma tail." Millions of miles long and pointed away from the sun, the plasma tail is made of charged particles captured mainly from the solar wind. Sometimes called the "plasma sheet," the tail is held together by the Earth's magnetic field.

"Collisions of auroras associated with plasma coming from the deep plasma tail, with the aurora coming from the plasma in the nearest portion of the plasma tail, set up an unstable configuration," Lyons said.

The research team has identified a common sequence of events *(see illustrations)*: it begins with a broad curtain of slow-





moving auroras and a smaller knot of fast-moving auroras, initially far apart. The slow curtain quietly hangs in place, almost immobile, while the speedy knot rushes in from the north. The auroras collide, and an eruption of light ensues.

Surprises in the Magnetosphere

Other recent work by Lyons and UCLA colleagues revealed a previously unknown mode of energy transfer from the solar wind to the Earth's magnetosphere—a discovery that could improve the safety and reliability of spacecraft that operate in the upper atmosphere.

"It's like something else is heating the atmosphere besides the sun," said Lyons. "This discovery is like finding it got hotter when the sun went down."

The sun emits a stream of ionized particles called the solar wind that affects the Earth and other planets in the solar system. The solar wind, which carries the particles from the sun's magnetic field, known as the interplanetary magnetic field, takes about three or four days to reach the Earth. When the charged electrical particles approach the Earth, they carve out a highly magnetized region—the magnetosphere—which surrounds and protects the Earth.

> "Our jaws dropped when we saw the movies for the first time. These outbursts are telling us something very fundamental about the nature of auroras."

Charged particles carry currents, which cause significant modifications in the Earth's magnetosphere. This region is where communications spacecraft operate and where the energy releases in space known as substorms wreak havoc on satellites, power grids and communications systems.

The rate at which the solar wind transfers energy to the magnetosphere can vary widely, but what determines the rate of energy transfer is unclear.

"We thought it was known, but we came up with a major surprise," said Lyons, who conducted the research with assistant researcher Heejeong Kim, and other colleagues.

"This is where everything gets started," Lyons said. "Any important variations in the magnetosphere occur because there is a transfer of energy from the solar wind to the particles in the magnetosphere. The first critical step is to understand how the energy gets transferred from the solar wind to the magnetosphere."

THE PAIN OF Inequality

Every year, millions of prospective college students eagerly await notice that they've been admitted to the school of their choice.

But a first-of-its-kind finding by Jennie Brand, an assistant professor of sociology who studies the broad implications of social inequality, shows that high school seniors who did not apply to college may be skipping more than just the rite of passage into university life: they could be missing some of the greatest financial returns a college education can offer.

"We found that the highest economic return to a college education is among the students who were least likely to go to college," said Brand.

The new study represents one aspect of Brand's research on inequality and how it affects the life trajectories of socially disadvantaged populations. Brand explores access to higher education and its impact on social mobility, as well as the social and psychological consequences of job loss.

> "Social engagement often involves an element of social trust—you give some support if you get some support, and society benefits from you if you benefit from society. When workers are displaced, the tendency is to feel as though the social contract has been violated, and we found that they are less likely to reciprocate."

Brand's current study is the first to look at the economic impact of a college education based on the probability of being college-bound by virtue of family background, an individual's own abilities, and the educational aspirations of friends.

Brand, working with Yu Xie from the University of Michigan, found that the economic value of a college diploma is nearly twice as high for women from disadvantaged backgrounds as for women from privileged backgrounds. For disadvantaged men, the lift is even greater: a college education is worth three times more for them than for privileged college-goers.

"We observe that individuals with relatively disadvantaged social backgrounds and low levels of early achievement—or those with the lowest probability of completing college—benefit the most from completing college," Brand said.

The researchers found the lowest financial return among students who were most likely to go to college.

Brand and Xie based their research on a survey of more than 12,000 Americans who were 14 to 22 years old when they were first interviewed in 1979 and who were followed through 2008.

Consistent with past research, Brand and Xie found that high school students were more likely to pursue higher education if they came from more privileged socioeconomic backgrounds, had parents with at least some college education, had high ability and high levels of high school achievement, and had friends who planned to go to college.

Jennie Brand

Two first-of-their-kind findings by sociologist Jennie Brand vividly illuminate how social pitfalls and challenges can disrupt life trajectories.

In all, Brand and Xie isolated 16 significant predictors of college attendance. The researchers then compared the earnings of college graduates and the earnings of high school graduates who had the same college probability scores.

Compared with men, women overall enjoyed a greater economic lift from a college education. But those from disadvantaged backgrounds still got a bigger bang for their educational buck.

Brand and Xie believe a range of factors account for the greater returns enjoyed by college graduates from disadvantaged backgrounds.

"One reason college graduates from disadvantaged backgrounds do so much better financially than their peers who don't pursue higher education is because high school graduates from disadvantaged backgrounds face such a tough labor market," Brand said.

In contrast, individuals who are more likely to attend college are also more likely to have parents with means and social networks that, in the absence of a college degree, can be mined for employment.

"For them, a college-degree isn't as financially consequential as for high school graduates from disadvantaged backgrounds," Brand said.

The researchers found that college students from disadvantaged backgrounds were more likely than their more privileged peers to pursue such career-oriented majors as business and education. College students from more privileged backgrounds, meanwhile, were more likely than their disadvantaged classmates to major in the liberal arts.

The Social Pain of Job Loss

Brand's work on social inequality also extends into research on the personal consequences of job loss, including recent findings that illuminate the surprisingly broad impact of a layoff on an individual's involvement as a member of the community.

In another first-time study, Brand found that the impact of losing a job extends far beyond the time out of work—often causing social disconnection that can have a lifelong impact on an individual's willingness to volunteer or participate in social and community groups and organizations.

"What we found is that even just one disruption in employment makes workers significantly less likely to participate in a whole range of social activities, from supporting charities to joining book clubs to participating in the PTA," said Brand. "After being laid off or downsized, workers are less likely to give back to their community—even after they are employed again."

Brand's research found that workers who had experienced just one involuntary disruption in their employment status were 35 percent less likely to be involved in their communities than their counterparts who had never experienced a job loss due to layoff, downsizing or restructuring, or a business closing or relocating.

"There are several plausible explanations for these findings," said Brand. Displaced workers may be experiencing downward economic mobility, depression, and have to be geographically mobile, factors which may sever community ties.

"But also, social engagement involves an element of social trust and a sense that things are reciprocal—that you give some support if you get some support, and society benefits from you if you benefit from society. When workers are displaced, the tendency is to feel as though the social contract has been violated, and we found that they are less likely to reciprocate."

NEW MILESTONES ON THE ROAD TO Understanding Cancer

Molecular biologist Steve Jacobsen is using novel approaches that are clarifying functions at the genetic level, including changes that lead to cancer.

You probably wouldn't pay much attention if you saw *Arabidopsis thaliana* sprouting in a crack on the sidewalk, but this unassuming little member of the mustard family is quite useful for scientists as a model organism. *Arabidopsis (see illustration)* has the first plant genome to be sequenced, and scientists around the world are using *Arabidopsis* as a means to gain a clearer understanding of genetic mechanisms in animals as well as plants.

In the mid-1990s, when Steve Jacobsen, now a professor in the Department of Molecular, Cell, and Developmental Biology, was conducting his first studies after receiving his Ph.D., he isolated a genetic mutation that caused *Arabidopsis* to produce an excessive number of stamens (male sex organs). The mutation itself (termed the 'Superman' gene by some witty biologist) was already well-known and being studied by a number of researchers. Jacobsen felt sure he had isolated the genetic mutation behind Superman, but test after test failed to turn up any changes in the gene sequence.

For two and a half years, Jacobsen wrestled with the problem, struggling to prove whether or not the mutation was real. At last, he discovered the culprit—it was a process called DNA methylation that was causing the gene to shut down. While genetic mutation changes the structure of a gene by reshuffling the gene sequence, methylation operates at a less basic level by affecting the function of the gene.

In fact, Jacobsen learned, the Superman gene had not mutated, but methylation caused the gene to act as if it had a mutation.

"Something like this had never been seen—we didn't even have any frame of reference to think about it," recalls Jacobsen in explaining the time it took him and his fellow researchers to uncover the truth.

To study these questions, an entire branch of research has sprung up, known as epigenetics, to investigate changes in gene expression caused by factors other than changes in DNA sequences—factors such as methylation.

Steve Jacobsen

> Something like this had never been seen—we didn't even have any frame of reference to think about it.

Although Jacobsen had achieved a real breakthrough in uncovering the role of methylation in the Superman mutation, he still found himself in the typical scientist's situation: answering one question led to even more questions—in this case about the role and persistence of methylation in the evolution of plants. To delve deeper, Jacobsen began another series of experiments. First he discovered a variation of the Superman gene, which he naturally named "Clark Kent." Then he began chemically knocking certain genes out of commission to see the effect.

The experiment worked precisely as planned. In short order, Jacobsen and his team of researchers knocked out a gene that turned off the methylation.

Since that time, Jacobsen and his crew have been continuing along the same path of exploring DNA methylation systems in plants, particularly *Arabidopsis*, delving down to the biochemical level in an attempt to better understand the mechanisms at work.

It all represents exciting developments in basic research on gene functions, but one could ask: why study these processes at all, and why study them in plants? It turns out that methylation is important in many ways, but the most important one may relate to cancer.

"Cancer is generally caused either by a harmful mutation in a gene or the inappropriate expression of a gene," said Jacobsen. "Oncogenes, for instance, are types of genes that can apparently cause cancer if they are expressed too much or at the wrong time."

A mutation that causes a specific gene to stop suppressing a tumor can cause cancer, but the methylation of the same gene can act like a mutation, causing the gene to cease functioning and ultimately leading to the same outcome: cancer.

It turns out that one of the major ways that the genes that suppress tumors are inactivated is through methylation, or through a combination of mutation and methylation. But while genetic mutations are one-way and permanent, methylation is potentially reversible. So if researchers can determine how to develop a gene therapy that removes the methylation from tumor suppressor genes, they may be able to reactivate those genes and prevent cancer, or stimulate the body to fight cancers more aggressively.

But if you're trying to cure cancer, why study plants?

"DNA methylation systems in plants are very ancient, but they are also very similar in humans and plants," said Jacobsen. "You can identify the same exact enzymes and see that they work in the same way. Basically the systems have been working this way for billions of years going back to an organism that predates the split between plants and animals."

Not only do results from plant experiments prove helpful for understanding DNA methylation in humans, but the plants are typically far more robust in tolerating experimentation. And since *Arabidopsis* is a model, well-understood plant, using it simplifies genetic analysis considerably.

But while the genetic structure of *Arabidopsis*, with its 125-million base pairs, is far simpler than the human genome with its 3-billion base pairs, Jacobsen's epigenetic experiments still require a great deal of data sifting to yield useful results. That's where Jacobsen's collaboration with colleague Matteo Pellegrini, a computational biologist, has proved so rewarding. Working together, Jacobsen and Pellegrini have developed a technique to pinpoint the precise location of each methylation of the genome.

UCLA offers Jacobsen other opportunities for fruitful collaboration. He is working with James Wohlschlegel from the David Geffen School of Medicine, an expert in mass spectrometry, to identify new proteins involved in methylation control. With funding from the Stem Cell Institute, Jacobsen and Pellegrini are working with Amander Clark, a stem cell expert, to identify and explore the interesting and numerous changes in DNA methylation that occur in stem cells as they transform into more specialized types of cells.

If methylation seems like it causes more trouble than it's worth, Jacobsen assures us that most people believe DNA methylation has an ancient and noble function to defend our DNA against so-called 'transposable elements'—little pieces of DNA that perform no useful function, but have the ability to replicate themselves and clutter up our genome.

"Methylation is our way of fighting back and silencing these strands of junk DNA," said Jacobsen. "Without methylation, these selfish transposable elements would basically take over and trash our genomes."

An Academic View from "The Hill"

An ambitious agenda of College programs offered in the campus' residential neighborhood is creating a true sense of academic community—right where students live.

By Robin Heffler

Not so long ago, UCLA was considered a commuter school. For decades, a majority of UCLA's undergraduates lived off campus and commuted, leaving the university with few opportunities to create academic experiences that built an intellectual environment around students' personal and social lives.

Today, it's a much different view from "the hill," as UCLA's residential community is known.

More than 9,000 students—including 90 percent of all freshmen—now live on campus, allowing UCLA to shed its commuter school image. And to bolster the academic involvement right where students live, the Division of Undergraduate Education in the College of Letters and Science along with campus partners have spearheaded the creation of programs and services that have transformed residential living into a true "academic community" that more closely resembles the intellectual environment found at small liberal arts colleges.

"Creating an academic community for students who live on campus is a challenge for large universities, but it works here," said Judith L. Smith, dean and vice provost for undergraduate education.

"We've been successful in three dimensions: creating space in the residential community devoted to academic programming that includes offices and lecture halls; involving faculty by increasing the number of professors who live in the residence halls; and having staff members who are committed to the partnership between academics and residential life," said Smith.

Undergraduates can now take classes, receive mentoring from faculty, obtain academic counseling about coursework and guidance about scholarship opportunities, and participate in workshops to plan their academic and post-graduation careers—all within the residence hall community.

"These programs help entering students to get comfortable with the campus and knowledgeable

"Creating an academic community for students who live on campus is a challenge for large universities, but it works here."

about where to go for help," said Betty Glick, associate vice provost for undergraduate education.

"By placing courses and services directly where students are living, we make it easier for them to take advantage of opportunities that help them meet their academic and personal goals."

For example, the classes offered for the College's renowned Freshman Cluster Program find their home in the residential community. For Freshman Clusters—students study a multidisciplinary subject in classes and seminars on a broad topic of timely importance such as the "global environment" or "interracial dynamics"—most of the lectures are taught in the De Neve Learning Auditorium adjacent to the residence halls.

Faculty also spend one-on-one time with students on the hill when they participate in the UCLA Faculty in Residence Program, the largest of its kind in the UC system. Sixteen faculty members live in residences on the hill, some with families, giving students academic support, mentoring, and inspiration.

"The Faculty in Residence Program builds links between students and academic life on campus, because faculty are more available and approachable when they're living among students in the residence halls," said Suzanne Seplow, executive director of the Office of Residential Life and the First-Year Experience, which coordinates the faculty program. "And many studies have shown that faculty involvement in student life increases students' continuing in their academic careers and graduating."

Another valued program on the hill is Academics in the Commons, which offers academic support through laboratories for composition, math, ESL, and science peer learning; counseling; and workshops to build both intellectual and personal skills. A Peer Advising Network matches students who are uncertain about navigating academic life with peer mentors—experienced students who are trained to help them.

In the fall and winter quarters this year, Deborah Matian, a junior and transfer student, received assistance from senior Dominic Nunneri.

"Dominic helped me with registering for classes, and he opened my eyes to different functions available on the 'myucla' website, such as study lists, classes, and grades," said Matian.

Nunneri, in turn, said he received a lot from assisting Matian and others.

"It's nice to give back to a system that supported me," he said, "because I definitely benefited from Bruce Barbee's Education 92 class, which I took my first quarter at UCLA. It helped me tremendously in approaching college in the correct way."

Director of Academics in the Commons and an adjunct assistant professor in the School of Education, Barbee teaches the two-unit Education 92 course, called "Academic Success and the College Experience," on the hill.

"I tell the peer learning facilitators that 'you will get the most out of this,'" said Barbee, "because they gain leadership, presentation, and public-speaking skills, as well as confidence in themselves as learners when they help someone else."

For new and transfer students, the integration of academic and residential life begins at Summer Orientation. That's when students receive counseling on course and major preparation; freshmen spend two nights in the residence halls learning about hall life and meeting other students on their floor.

During each academic quarter, students can attend evening workshops in Covel Commons, which offer more help with course planning as well as broader academic and career planning, opportunities to get involved in research and campus life, and tips on coping mechanisms like stress management.

For new transfer students who only have two years at UCLA, workshops and Summer Orientation ensure they are taking the appropriate courses for graduation and afterward.

"From Orientation forward, we teach them how to use the opportunities at UCLA in ways that are tailor-made for them," said Roxanne Neal, director of New Student and Transition Programs. "There are enormous opportunities available, but they do have to start early so they can explore and find the right fit for their majors, their desired experiences at UCLA, and their careers." CR

www.ugeducation.ucla.edu

English scholar Robert Watson explores how attitudes about the natural world that developed during the Renaissance shape our thinking about the environment today.

Environmentally Aware through Shakespeare

By Robin Heffler

In Robert Watson's view, the roots of our attitudes about the environment were planted in 16th and 17th-century England. He also believes that those attitudes could use some modern-day revisions.

"During the Renaissance, a range of innovations—among them urbanization, the Protestant Reformation, and new technologies—made people anxious about their ability to make real contact with the world around them," said Watson, a UCLA professor of English who primarily teaches Shakespeare and English Renaissance poetry. "As a result, people developed an intense nostalgia for a simple, organic world that they thought they had lost, and a desire to get back to nature.

"These views created an association between nature and simplicity; that link needs to be broken, like scar tissue from an old cultural wound," said Watson. "My belief is that the best hope for environmentalist politics is educating people to tolerate and even revere complexity, to recognize how extensive and intricate our interplay is with the diverse natural world."

A renowned scholar who has also been instrumental in creating some of UCLA's most innovative classroom programs for undergraduates, Watson is the author of *Back to Nature: The Green and the Real in the Late Renaissance*, an examination of ecological themes in the works of Shakespeare and other literary and visual artists of the period. The book won best-of-the-year awards from the scholarly journal *Studies in English Literature* and from the Association for the Study of Literature and the Environment.

A former chair of the Department of English, and also of the Letters and Science faculty, for many years Watson served as head scholar of a summer program for high school teachers at the Folger Shakespeare Library in Washington, D.C. In 2001, he won the UCLA Distinguished Teaching Award, and in 2006 received the UCLA Gold Shield Prize, which is given annually to one faculty member for outstanding contributions in research, teaching, and public service.

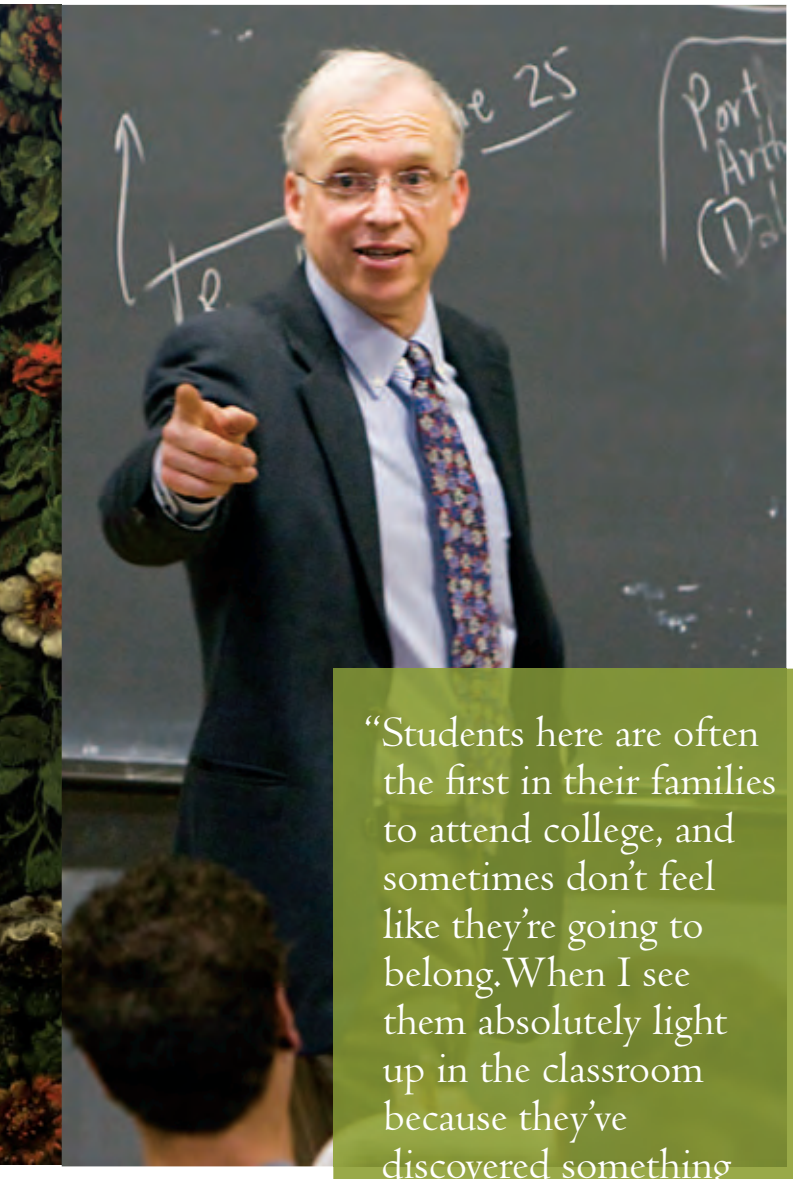
"I love being at a public university," said Watson, who taught previously at Harvard before joining the

Among the many fields studied by English scholar Robert Watson are environmental themes that emerged in the Renaissance, which are strikingly symbolized by the paintings of 16th century painter Giuseppe Arcimboldo; his portraits, such as "Summer" (above), were created using only images of fruit, vegetables, flowers, fish, and books.

UCLA faculty in 1986. "Students here are often the first in their families to attend college, and sometimes don't feel like they're going to belong. When I see them absolutely light up in the classroom because they've discovered something amazing that their minds can do with Shakespeare, that's as rewarding a teaching moment as you could ever hope for."

That enthusiasm has translated into Watson's involvement in UCLA's enriched undergraduate programs, including courses that step outside the traditional boundaries of his discipline.

Remembering his own experience as a teenager in New York during the politically charged Vietnam-War era, in 1995 Watson began teaching an honors colloquium on "The U.S. in the 1960s." In 2000, the class evolved into a year-long course for the Freshman Cluster Program that he co-taught with Janice Reiff, associate professor of history; Joel Aberbach, professor of political science and public policy; and Jeff Decker, an adjunct associate professor in American literature.



"Students here are often the first in their families to attend college, and sometimes don't feel like they're going to belong. When I see them absolutely light up in the classroom because they've discovered something amazing that their minds can do with Shakespeare, that's as rewarding a teaching moment as you could ever hope for."

"I thought that if I could find some excellent faculty in different fields who would teach this cluster with me, we could give a generation of students who have mostly been sold a set of right- and left-wing clichés a much better set of understandings of the America that formed the one they live in now," Watson said.

Formerly associate vice-provost for educational innovation at UCLA, Watson has chaired, since their inception, the *Fiat Lux* Freshman Seminars, which are designed to bring together small groups of students with faculty to explore a wide range of non-traditional subjects in nearly 200 courses annually. He also serves as chair of the Undergraduate Student-Initiated Education program (USIE), which guides students in creating seminar courses that they facilitate.

Outside the university, Watson's public service contributions include guest lectures on Shakespeare to local high school and middle school classes.

"It's really thrilling to see that when you challenge people, offering them something with this level of verbal and moral complexity, that good young minds eagerly gobble it up," Watson said.

Watson's own hunger for teaching, research, and educational innovation is something for which he was probably predisposed: his parents were both university professors in New York. But the attraction to Shakespeare was entirely his own.

"I just found that whatever was on my mind got more interesting and better articulated when I thought about it through Shakespeare," he said, "and that when I saw any pattern in a Shakespeare play, it always led to something larger. Who wouldn't want to continue that conversation?"

Exploring those broad issues led Watson to his recent explorations of the environmental themes in Shakespeare's writing. His current research focuses on Shakespeare's play, *A Midsummer Night's Dream*, in which characters are constantly morphing into flowers and non-human animals, and are driven by something other than their conscious minds and rational choices.

"In the play, the world of the fairies can be seen as a kind of prophetic intuition of what we now know about microbes —that lots of tiny, invisible forces are around and inside of us all the time, sorting out our sleeping and our mating, when we think that we're these independent and autonomous creatures," Watson said.

"While we know much more science today, it's possible that Shakespeare's world had a better basic model than we do for how mysterious and interdependent all the functions of life are," Watson suggested. "Things like a great Shakespeare play can help people go back and consider that possibility, and be more open to it than if it arrived in the form of a political slogan."

The College is leading UCLA's mission to increase the number of students involved in "capstone" projects to complete their undergraduate studies.

At the

By Alison Hewitt

Like all environmental sciences majors, Kalina Ward joined a team of students in a year-long project this year that put her environmental business skills to the test. The senior project—a "capstone" in UCLA parlance—requires undergrads to unite the threads of their various classes at UCLA in a culminating academic venture.

Ward's team is studying if there is a way that California vintners can attract buyers by putting their organic credentials on their wine labels; as it turns out, Ward found her calling in the study of markets and consumer views—with an environmental emphasis.

"This was an important, real-world experience for me," Ward said.

Growing numbers of UCLA departments are offering or requiring capstones. Their ranks swelled in recent years as the administration of the College of Letters and Science encouraged faculty to give more students the opportunity to complete their studies with a final project. About 30 percent of UCLA majors now provide capstones: for instance, history majors write a senior thesis, or students in statistics combine research and community service by providing statistical analysis to a community partner.

It's the kind of opportunity offered at many small liberal arts colleges, but rarely at a research university, where such resources are usually limited to graduate students, said Judith Smith, vice provost of undergraduate education.

"The value of a research university is that people are making discoveries that advance their fields, and in capstones and other advanced work, undergraduates are capable of doing that as well," Smith said.

Smith set up a faculty workgroup to define and expand UCLA's capstone offerings. Musicology Professor Raymond Knapp chairs the workgroup, which has surveyed the college's academic majors to find out who was already offering a capstone-style program, and who was interested. The group offers encouragement, options and advice to departments about how to form their own capstone. About a third now have a certified capstone program and 15-20 more are on the way.

"We don't want to make capstones a requirement, but we're trying to build up to offering capstones to more than half of our students," Knapp said. "The capstone allows undergraduates to tackle a project like the ones they've been studying their entire academic career. We're the largest and one of the first major research universities to do this."

The capstone experience also provides focus to undergraduate education, said Jennifer Lindholm, who works with Knapp on the capstone workgroup and is special assistant to the vice provost for undergraduate education.

"When undergraduates know there is a culminating experience in which they must ask a question, develop a thesis, and write a paper, it allows them to own their education and think about how they will use it down the road," Lindholm said.

Capstones are also a chance for UCLA faculty to share their love of research, Lindholm added.

"To engage in new research, to generate new scholarly information, particularly at research university, that's what we all enjoy," she said. "It's fun to share that with the students."

For Daniel Mabasa, who works with Ward on the team researching how consumers respond to organic information on wine labels, it's an ideal step from academics to the professional world. The team's project could make the entire California wine industry more sustainable if their market research can discover a label that would make consumers want to buy organic wine.

"It's like we're working in the field," Mabasa said. "The most fulfilling aspect is that we're really interacting with our classmates, and these are people we will work with professionally some day. We're building our professional network now.

Students Kalina Ward and Daniel Mabasa discuss their senior-year capstone project for their environmental sciences major.

End of a Long Road

In a regular class, you don't have this kind of team interaction and connection."

Ward marveled that teams are even meeting socially. Her team hosted a wine tasting, comparing inexpensive "two-buck Chuck" Charles Shaw wines with a few $40 organic wines. "These kinds of friendships almost never form in a regular UCLA class," Ward said. She and Mabasa also have a strong connection to their advisor, Magali Delmas, an associate professor of management with UCLA's Institute of the Environment.

"Students don't often have the opportunity to work on real research projects from start to finish," Delmas said. "In the team setting especially, it's good exposure for them on how to manage people and learn what skills they excel at. They're really evolving and learning about themselves and what kind of projects they like to work on."

The campus as a whole is really embracing the capstone, Lindholm said, with an ambitious goal of involving 60 percent of students in a project by UCLA's centennial in 2019.

"Capstones are a big benefit to the students, and also to the faculty," said Smith. "The students have extraordinary ideas and insights that add considerably to the academic community.

"At UCLA, our undergraduates are among the best and the brightest, and capstones allow them to do something of their own that matches their passion."

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Organization at the

Chemist Sarah Tolbert explores how size and structure can be used to create change in the properties of materials.

For Sarah Tolbert, her research is all about organization—at the nanoscale.

Tolbert—a professor of chemistry and member of the California NanoSystems Institute—explores the fundamental questions affecting complex materials so small that they are measured at lengths less than one-thousandth the thickness of a human hair. Tolbert's work, while wide-ranging, is based on one of the basic principals of nanoscience: that larger materials, when made very small, can have very different properties.

Tolbert studies optical, magnetic, electrical, and structural behaviors, focusing on the link between those physical properties and the nanoscale structure of the materials. In this way, she works to understand how size and structure can be used to control and change the properties of materials.

"My group often starts with materials in solution," Tolbert said, "with the goal of making the materials organize in ways that give them new properties that we can exploit."

In one example of Tolbert's recent work, her group focuses on exploring issues that could create batteries that have the twin advantages of fast charging, combined with high capacity for storage.

"A major problem with current capacitors (devices that hold an electrical charge) and batteries is that they are either slow to charge, or they don't store enough charge," said Tolbert. "The ideal is to create a system that can be charged quickly, and also stores a lot of charge."

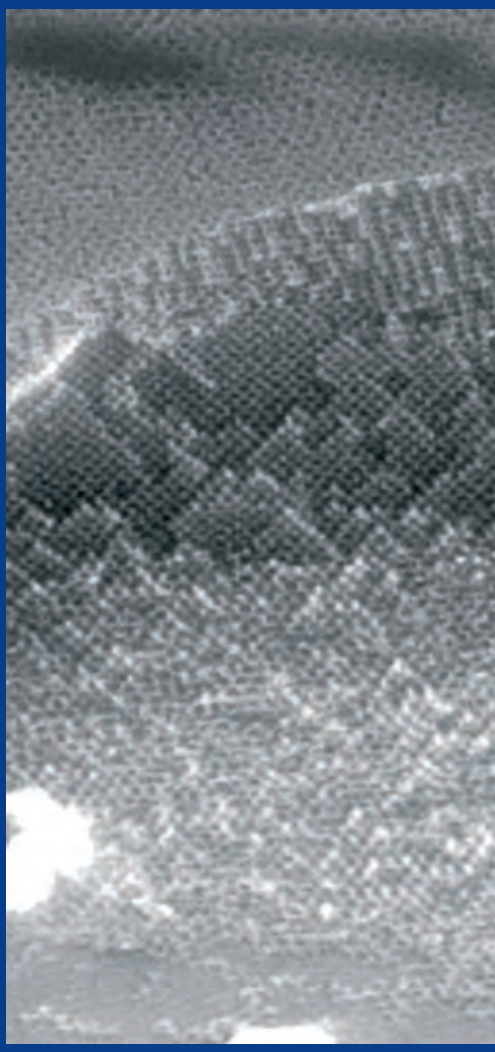
Tolbert and Bruce Dunn, professor of material sciences and engineering, are working on this principle in their work on new types of "supercapacitors"—a storage device halfway between a battery and a capacitor—using her assembly methods at the nanoscale.

"A way to create a battery that can charge and discharge very quickly is to design it so it stores the charge on its surface—but that requires a lot of surface," said Tolbert. "That's where porous materials come in, because they can be created in ways that produce a tremendous amount of surface area."

Tolbert and Dunn are taking nanocrystals that can store a charge, and assembling them onto porous materials, thus creating a matrix of storage sites surrounded by the battery's electrolyte solution.

"You could see this nanoscale architecture as being a bit like a 'city for electrons,'" said Tolbert. "All the surface sites on the nanocrystals are like the houses on a map, and the larger pores in the material are like freeways that the electrolyte can wash through."

In another research direction for Tolbert that also has exciting potential for commercial application, she and colleagues use porous materials similar to those used for her work on batteries to organize conducting plastics, forcing them to give off polarized light and to conduct electricity more efficiently. The research could lead to a brighter polarized light source for LEDs in consumer electronics devices, and possibly to more efficient solar cells as well.



In this work, the Tolbert group takes plastics that consist of long chains of atoms that work as semiconductors called "semiconducting polymers"—and stretches them out by putting them in nano-size holes in a glass matrix.

"If you have polymer chains that can wiggle like spaghetti, it's hard to make them all point in the same direction," Tolbert said. "What we do here is to again make tiny, nanometer-sized holes in a piece of glass or a related material like titania and force the polymer chains into the holes. The holes are so small that the spaghetti chains have no space to coil up. They have to lie straight, and all the chains end up pointing in the same direction."

Because the chains point in the same direction, they absorb polarized light and give off polarized light. This leads to a number of exciting results:

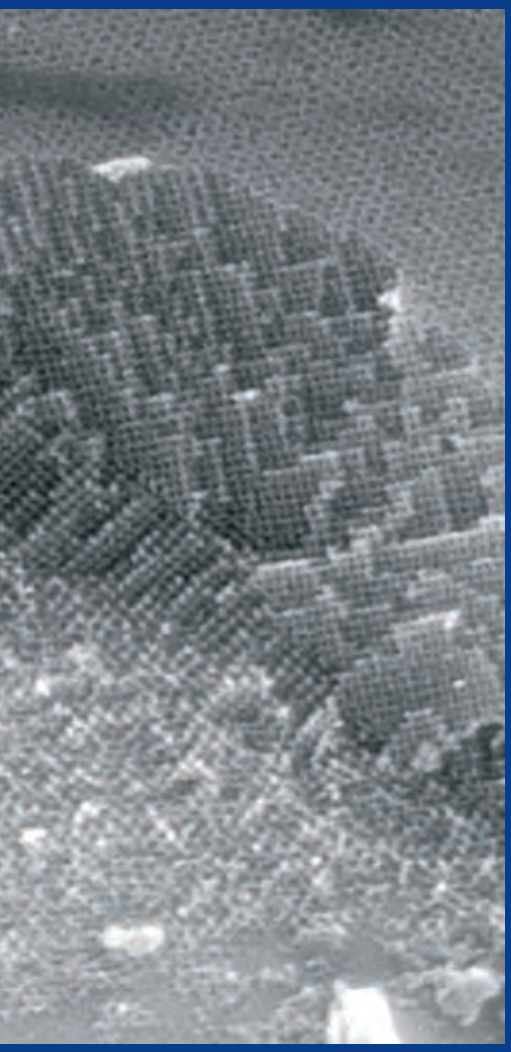
Nanoscale

"You could see this nanoscale architecture as being like a 'city for electrons.' Surface sites on the nanocrystals are like houses on a map, and larger pores in the material are like freeways that the electrolyte can wash through."

for example, the lined-up polymer chains show advantages for laser technology because all the chains can participate in the lasing process, and they can make the light polarized without the need for any external optical elements.

In addition to being both strong absorbers of light and efficient emitters of light, semiconducting polymers can conduct electricity. They only conduct along the polymer chains, however, so again, lining them up inside of pores can produce improved properties—this time better conductivity. The Tolbert group is working on using these aligned semiconducting polymers in both plastic solar cells and in field-effect transistors (also known as FETs) which form the basis for low cost plastic circuits.

The Tolbert group works with the groups of Benjamin Schwartz and Yves Rubin in the Department of Chemistry and Biochemistry on plastic solar cells and with Canon, Inc. on plastic FETs.



"There is huge interest in exploiting plastic electronics for a range of applications," Tolbert said, "because they are inexpensive to produce and to process. In many cases, however, these plastics simply are not good enough conductors. It is exciting that straightening the chains out by putting them into nanopores may be a way to significantly improve this conductivity."

Tolbert believes that extending her research and teaching beyond the lab is also a priority. She works with the California NanoSystems Institute (CNSI) to introduce high school teachers to new developments in nanoscience that are already reshaping our world. Tolbert directs the High School Nanoscience Program, which trains teachers to incorporate nanoscience into their standard core curriculum. The program is a joint effort of the CNSI, a National Science Foundation-funded IGERT training grant, and the UCLA Graduate School of Education.

"We created this program with the goal of using nanoscience to show high school students just how exciting science can be," said Tolbert. "We develop experiments and material for the high school teachers, and then show them how to do the experiments with their classes."

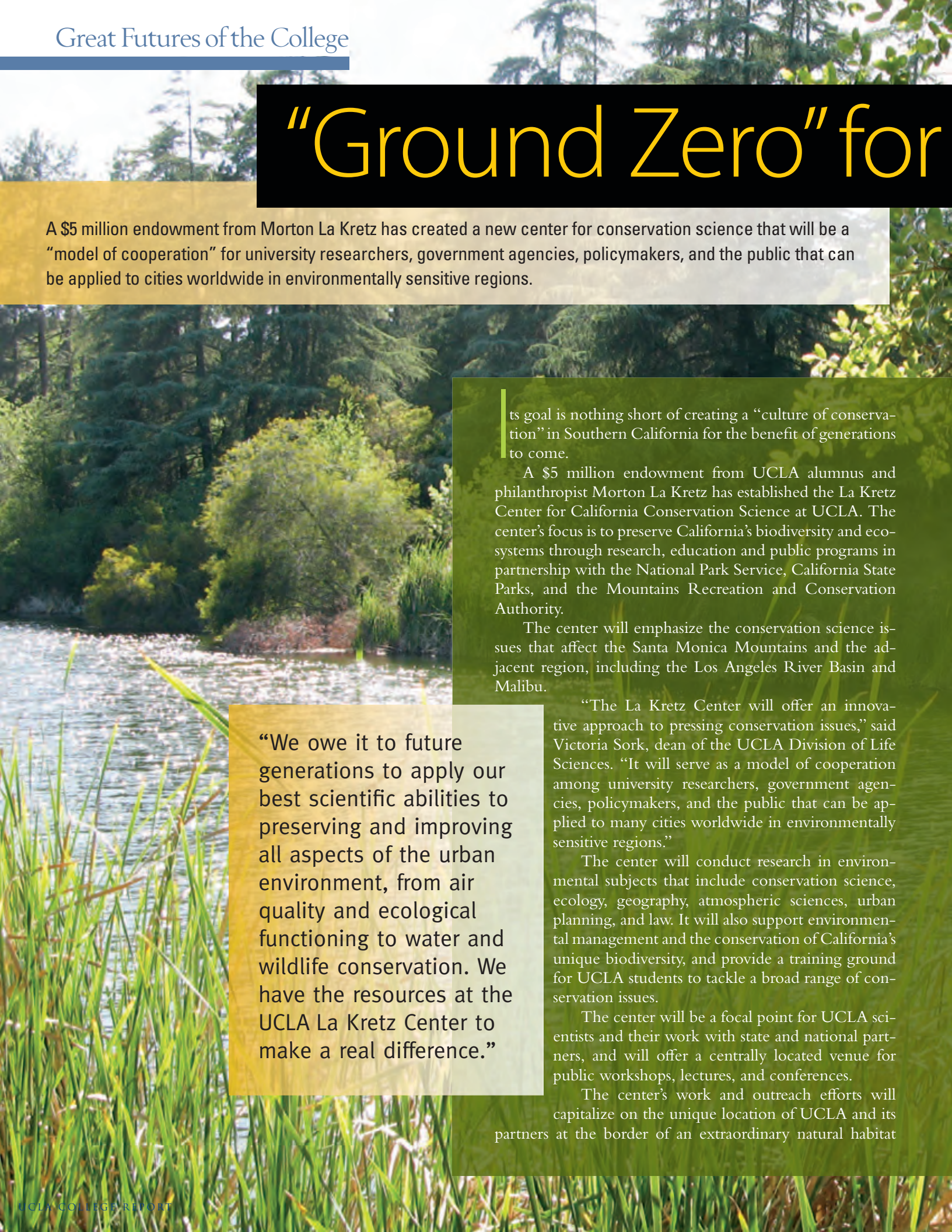
Since 2003, post-doctoral scholars and graduate students have trained hundreds of teachers from across Southern California—instructors who have then spread the nanoscience message to thousands of high school students.

"This is an exciting program for all involved," said Tolbert. "Our post-doctoral scholars and graduate students get valuable experience learning how to present science, and the high school teachers receive classroom materials and training on some of the latest developments in nanotechnology. Everyone gets excited about working on projects that involve real cutting edge science."

Left: an image taken with a scanning electron microscope of a titania that contains ordered nanosized pores. The sample was produced by the group headed by Professor Sarah Tolbert (below).

"Ground Zero" for

A $5 million endowment from Morton La Kretz has created a new center for conservation science that will be a "model of cooperation" for university researchers, government agencies, policymakers, and the public that can be applied to cities worldwide in environmentally sensitive regions.



Its goal is nothing short of creating a "culture of conservation" in Southern California for the benefit of generations to come.

A $5 million endowment from UCLA alumnus and philanthropist Morton La Kretz has established the La Kretz Center for California Conservation Science at UCLA. The center's focus is to preserve California's biodiversity and ecosystems through research, education and public programs in partnership with the National Park Service, California State Parks, and the Mountains Recreation and Conservation Authority.

The center will emphasize the conservation science issues that affect the Santa Monica Mountains and the adjacent region, including the Los Angeles River Basin and Malibu.

"The La Kretz Center will offer an innovative approach to pressing conservation issues," said Victoria Sork, dean of the UCLA Division of Life Sciences. "It will serve as a model of cooperation among university researchers, government agencies, policymakers, and the public that can be applied to many cities worldwide in environmentally sensitive regions."

> "We owe it to future generations to apply our best scientific abilities to preserving and improving all aspects of the urban environment, from air quality and ecological functioning to water and wildlife conservation. We have the resources at the UCLA La Kretz Center to make a real difference."

The center will conduct research in environmental subjects that include conservation science, ecology, geography, atmospheric sciences, urban planning, and law. It will also support environmental management and the conservation of California's unique biodiversity, and provide a training ground for UCLA students to tackle a broad range of conservation issues.

The center will be a focal point for UCLA scientists and their work with state and national partners, and will offer a centrally located venue for public workshops, lectures, and conferences.

The center's work and outreach efforts will capitalize on the unique location of UCLA and its partners at the border of an extraordinary natural habitat

Conservation Studies

Morton La Kretz

where it meets one of the world's largest urban regions.

"The Santa Monica Mountains and Southern California are 'ground zero' for conservation in the 21st century," said Glen MacDonald, director of UCLA's Institute of the Environment and interim director of the La Kretz Center.

"More than 50 percent of the world's population lives in cities today; by 2050, that figure will rise to 70 percent," said MacDonald. "We owe it to those future generations to apply our best scientific abilities to preserving and improving all aspects of the urban environment, from air quality and ecological functioning to water and wildlife conservation. We have the resources at the UCLA La Kretz Center to make a real difference."

The Santa Monica Mountains "provide extensive pristine landscapes of chaparral shrub lands, oak and riparian woodlands, and coastal sage scrub that exemplify California's biodiversity," said Philip Rundel, a UCLA professor of ecology and evolutionary biology, a member of the UCLA Institute of the Environment, and director of UCLA's Stunt Ranch Reserve.

"Because the La Kretz Center will be located in this environment, it will be ideal for on-site research, the sharing of information and outreach to the community," said Rundel. "We anticipate bringing high school students to the center during the summer months to learn about the environment and conservation issues."

Adds Woody Smeck, Santa Monica Mountains National Recreation Area superintendent: "The La Kretz Center offers an unprecedented opportunity for National Park Service scientists to work alongside leading UCLA researchers. This will allow us to gain new insights into the best scientific land management practices for conserving this region's delicate natural resources."

The partnership with state and federal agencies will be particularly close because the La Kretz Center for California Conservation Science is expected to be located in a new multi-agency building that will also house the National Park Service and California State Parks—most likely in Malibu Creek State Park. Before the new facility is constructed, the center's director and staff will be housed in the National Park Service's headquarters in Thousand Oaks. Public events will be held at the King Gillette Ranch facilities that are managed by the Mountains Recreation and Conservation Authority.

The center will be managed by UCLA's Institute of the Environment in collaboration with Stunt Ranch Reserve and in close partnership with federal, state, and local authorities.

The new center marks the second major gift with an environmental focus given to UCLA by Morton La Kretz.

In 2005, UCLA opened La Kretz Hall, the university's first building to be certified "green" (meeting stringent environmental guidelines); La Kretz was the principal contributor to the $8.5 million project that is now the home to innovative classrooms, a 400-plus-seat lecture hall, and offices for the Institute of the Environment.

"We are extremely grateful to Morton La Kretz for his generosity and visionary philanthropy," Sork said. "He shares our vision of preserving and enhancing the environment in Los Angeles. His $5 million gift to create the La Kretz Center will be a great asset to Los Angeles, Southern California, and beyond."

Pioneering researcher Rosa Matzkin, holder of the Charles E. Davidson Endowed Chair in Economics, uses econometric research methods to seek answers to vexing questions in business and the public sector.

Toss out the Crystal Ball:

Making Predictions with Econometrics

She doesn't look like a fortune teller, but Rosa Matzkin has devoted her academic career to the development of methods for making predictions—accurate ones.

Using her pioneering econometric research methods developed and refined over 20 years, Matzkin, a professor of economics, can predict answers to some big questions: What will be the demand for a new product? What happens to house prices in a neighborhood as young families move in and older residents move out? What will be the benefits and costs for individuals and society of the new health care laws?

Holder of the Charles E. Davidson Endowed Chair in Economics, Matzkin specializes in econometrics, which combines economic theory with statistics to analyze and test economic relationships.

"Economics is concerned with the efficient allocation of resources to make people better off," said Matzkin, "but it can be difficult to predict allocation outcomes when we cannot directly observe things like individual preferences or abilities."

Matzkin developed her unique econometric methods to uncover these key unobservable elements to better predict and evaluate results. She can apply her methods to a wide range of scenarios across the private and public sectors—such as predicting which companies will exit a market because of a new tax, the individual benefits or costs of a new environmental regulation, and even the increase in demand for a particular expertise in response to technological advances.

Matzkin arrived at UCLA in 2007 after holding faculty positions at Northwestern and Yale; she was attracted to UCLA for its reputation as a world-renowned institution.

Matzkin's chair was endowed through the generosity of Charles Davidson, chairman and chief investment officer of Wexford Capital LLC based in Greenwich, Connecticut. With a bachelor's degree in economics from UCLA and an MBA from the UCLA Anderson School of Management, Davidson believes his education prepared him perfectly for success in his chosen field.

In 2004, he made a gift that created the Charles E. Davidson Endowed Chair in Economics to benefit the department that gave him his start. This endowed chair supports and recognizes world-class faculty in the economics department, and helps fulfill UCLA's key goal of increasing support that can be used to recruit and retain outstanding faculty and graduate students.

> "The donor has made a powerful statement that he cares about education, knowledge, and discovery at UCLA over the long term. It is my responsibility now to make the most valuable use of the funds."

In Matzkin's case, she considered other offers, but the resources the endowed chair provides were a deciding factor in her decision to come to the university.

Matzkin's benefactors, Charles and his wife, Theresa, remain actively involved in advocating for UCLA from their home in Connecticut, hosting dinners for the chancellor, alumni, and other university-affiliated groups visiting the East Coast. Davidson also serves on the Department of Economics Board of Visitors.

Rosa Matzkin is grateful for Davidson's vision and philanthropy, pointing out that "an endowed chair empowers everyone involved with education and research, not just the recipient of the chair.

"The donor has made a powerful statement that he cares about education, knowledge, and discovery at UCLA over the long term," Matzkin said, "It is my responsibility now to make the most valuable use of the funds."

Rosa Matzkin

A Start-up Model for Building UCLA's Future

Tech-world entrepreneurs are supporting UCLA by investing in the Venture Capital Fund.

UCLA Venture Capital Fund executive committee members (from left) Jeff Suto, John Kohler, Josh Green, and Treb Ryan.

It's a simple formula, really. Entrepreneurial spirit + innovative fund-raising model = the UCLA Venture Capital Fund, a unique way to grow businesses, make lifelong friends, and support UCLA.

It goes something like this: an entrepreneur starts a company, and venture capitalists provide financial backing in return for shares in the fledgling company—so far, a fairly standard VC model in the tech start-up world.

But what if entrepreneurs want to support UCLA? Through a cashless pledge they can pledge "founders' shares" to UCLA's Venture Capital Fund.

There is no downside to the Fund if the company fails, but if the company goes public or is acquired, the pledged shares become liquid (i.e. a "liquidity event"). The Fund then sells these liquid shares—usually at a higher value—to support areas of greatest need, with 80 percent allocated to the College of Letters and Science and 20 percent to the Department of Intercollegiate Athletics.

As state support dwindles, UCLA relies increasingly on private philanthropy to maintain its academic excellence and its ability to attract top faculty and students.

"This is a completely unique giving program among universities nationwide," said Josh Green, (B.A. '77, J.D. '80, parent '10), a partner at Mohr Davidow Ventures and a founding member of the Fund.

"I'm so impressed that UCLA has been willing to blend itself with the VC/start-up culture of the donors in order to expand giving—it shows great leadership and creativity in these economically challenging times."

Anyone who pledges $10,000 or more in founders' shares can join the Fund's Executive Committee, which has expanded from 8 to more than 40 members in just two years. Most are UCLA alumni or parents, and nowadays more than three-quarters are entrepreneurs, due in large part to the appeal of the cashless pledge model.

According to Michael Silton (M.B.A. '91), C.E.O. of Rainmaker Systems and a veteran member of the Fund's Executive Committee, the atmosphere around the conference table is electric at the twice-yearly meetings. "These are some of the best and brightest people in the world, who share an affinity for UCLA and a common passion for building the next generation of companies," Silton said.

Added Green, "There's great camaraderie among folks who graduated from the university as much as 30 years apart." Green said that members are sincere in their desire to help the university and not content just to sign a pledge letter; there are already five different subcommittees at work to address various focus areas.

Currently the Fund is invested in about 40 companies, from biotech to software to medical devices, and the investments are beginning to pay off. Two liquidity events (involving Meru Networks and Calix Networks) have been held this year so far, proving that this fundraising model works.

The future of the Fund is rosy with more liquidity events on the horizon, but that's really only part of the picture. Of even greater value to the university are the lasting ties forged with new friends and alumni.

"After all," mused Silton, "how often do you get to do what you love, meet other like-minded people, and as you help each other, contribute to UCLA and the next generation?"

For more information on the UCLA Venture Capital Fund, visit http://venturecapital.ucla.edu/.

"I'm so impressed that UCLA has been willing to blend itself with the VC/start-up culture of the donors in order to expand giving–it shows great leadership and creativity in these economically challenging times."

For information about supporting the UCLA College of Letters and Science, call Stephen Jennings, executive director of development, at (310)825-2558.

A Wrong Finally Made Right

The Japanese-American students who were forced to leave UCLA and relocate to detention centers during World War II were recognized with honorary degrees at a May 15 campus ceremony.

By Wendy Soderburg

When Bob Naka was a UCLA student in the early 1940s, there was a campus bridge that led from the parking area toward the Physics Building.

"There was a deep ravine under that bridge," he said. "The ravine has been covered over, but you can still drive over it. People probably wonder, how come this road has sides to it?"

That is the UCLA that Naka, 86, remembers. Naka hasn't been back to campus since the 1950s, a few years after the events of World War II wrenched him from the comfortable life of a student to that of an inmate at the Manzanar Relocation Center.

Now, nearly 60 years later, Naka returned to UCLA along with more than 70 of his fellow Japanese-American classmates to receive honorary degrees in place of the ones they were not allowed to complete because of U.S. Executive Order 9066, which in 1942 sent them and their families to internment camps throughout the United States.

For Naka and the other Japanese American students who finished their studies at other schools, the UCLA honorary degrees cap their academic careers. Naka was forced to withdraw from UCLA in May 1942—after completing three-quarters of his sophomore year—and was sent to Manzanar with his parents.

Naka and several other students were able to enroll at other colleges that were located away from the West Coast. Naka received his electrical engineering degree at the University of Missouri in 1945 and went on to earn a master's degree from the University of Minnesota and a Ph.D. from Harvard.

For his part, Naka remembers his UCLA days with fondness.

"I thought life at UCLA was very, very pleasant. And I made very good grades," he said. "In fact, the curious thing was that I outperformed all my high school classmates. Something happened that made me more connected to the classwork at UCLA at that level."

The former students were joined on the program by Chancellor Gene Block; Professor Lane Hirabayashi, chairholder of the UCLA George and Sakaye Aratani Professorship in Japanese American Redress, Internment and Community; California Assemblymember Warren Furutani; Edward Kobayashi, president of UCLA's Nikkei Student Union; and Professor Emeritus Don T. Nakanishi, chair of the campus-wide committee that organized the degree ceremony.

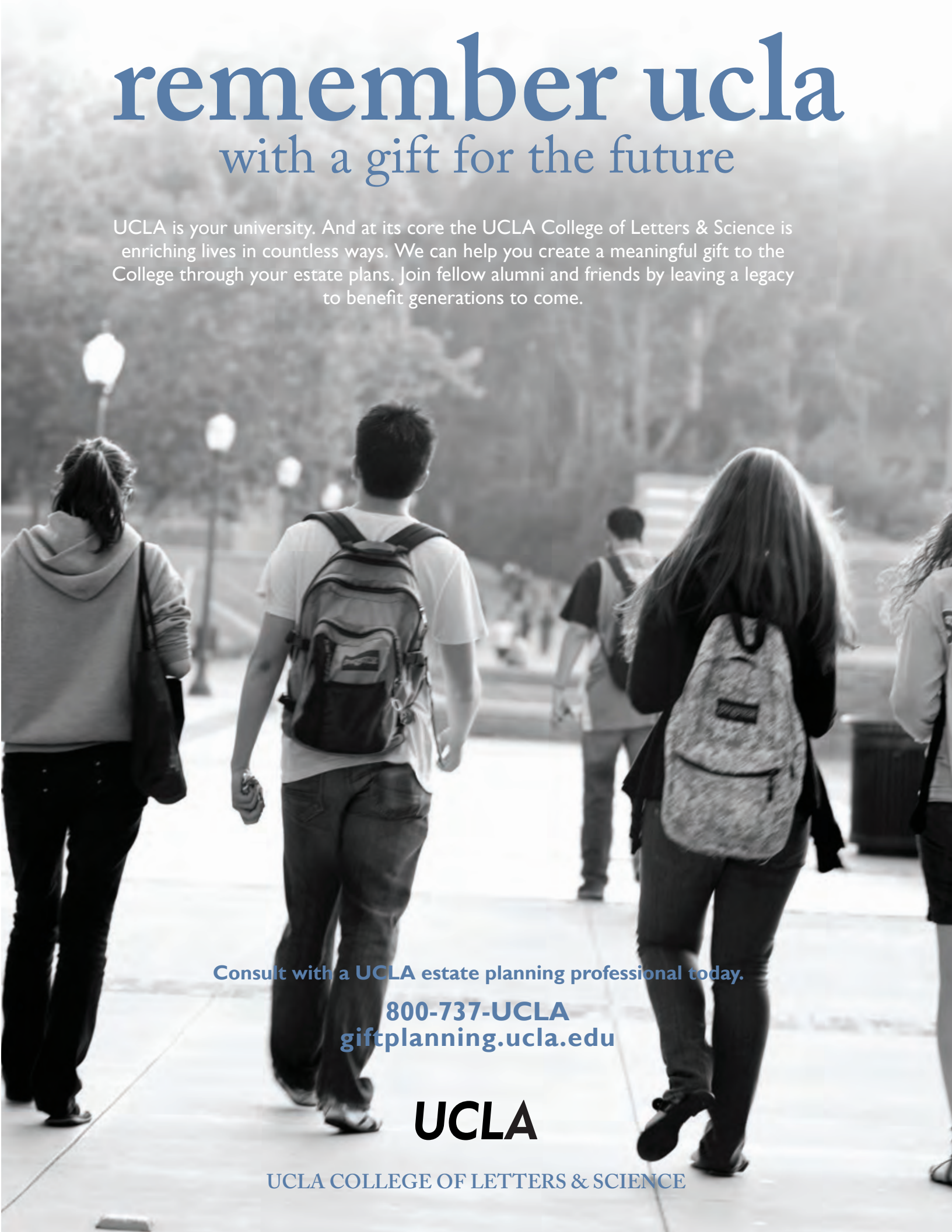
"It's never too late to join with others throughout the nation in recognizing that the mass removal and incarceration of Japanese Americans during World War II was wrong," Nakanishi said. "More than 700 UC students had to terminate their studies at UCLA and other campuses, and most never received degrees from these institutions."

It's too late for some former students, although they were represented at the ceremony by their families. Ron Takasugi knows that his father, Naoyuki, who died in November, surely would have attended; Nao, who was forced to leave UCLA for the Gila River Relocation Center 50 miles southeast of Phoenix, was a former state assemblyman and mayor of Oxnard, Calif.

"Dad was a true-blue Bruin all the way. Even though he graduated with a Temple and Wharton degree, he always supported UCLA and encouraged us to go there as well," said Takasugi, who graduated from UCLA along with two of his four siblings, and attended the ceremony on his father's behalf.

"I remember him telling me that even with the war breaking out, no one ever treated him badly or shunned him and his other Japanese American friends," Takasugi said. "Life on campus is somewhat sheltered from the real world, and the faculty and other students did not have the same prejudices or views that the government had at that time.

"Dad would have been so proud to have received his diploma from the college he loved so much."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Chancellor Gene Block and Paul Terasaki (with scissors), along with Hisako Terasaki (front right), dean of life sciences Victoria Sork (back right), and members of the Terasaki family at the June 13 ribbon-cutting ceremony for the newly named Terasaki Life Sciences Building.

Paul Terasaki—a three-time UCLA graduate, father of three Bruins, a UCLA faculty member, and developer of landmark advances in medical science that contribute to saving thousands of lives—has become the donor of the largest gift ever received by the College of Letters and Science. Terasaki has given $50 million to the Division of Life Sciences in the College. *See page 4.*