

Winter 2011

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Photo by Reed Hutchinson



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From the Deans of the College

Welcome News

Dear Friends:

We are delighted to report some very good news: the findings of the National Research Council (NRC) reinforce UCLA's position among the top universities.

The NRC's study of American research universities, released in September, showed that 40 UCLA departments are ranked among the best in their fields. Of these premier academic units, nearly three-quarters of them are in the College of Letters and Science (*see page 3*).

As appraisals of doctoral programs, the NRC rankings serve as a benchmark of academic quality for America's best research universities. They are consistent with other national and international rankings that also place UCLA among the world's top universities.

Sustaining premier doctoral studies requires the involvement of top graduate students; these talented young scholars are an integral element in the intellectual community on campus, and their success is crucial in creating the next generation of teachers and scholars.

This is why two of our most important priorities are recruiting the finest graduate students, and generating new support for fellowships to sustain their work. We will keep you informed of our progress.

As always, we welcome your views.

Sincerely,



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College News

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

College Graduate Programs: 28 at the Top Ranks

The National Research Council, which compiles the premier assessment of the nation's doctoral research programs, has placed 40 of UCLA's graduate programs in its highest ranks—among them 28 programs in the College of Letters and Science.

National Research Council: Ranked Doctoral Research Programs UCLA College of Letters and Science

(Departments in which the highest ranking extends into the top 10)

Atmospheric & Oceanic Sciences	1
Molecular, Cell, & Integrative Physiology*	1
Musicology	1
Anthropology	2
Archaeology	2
History	2
Immunology & Infectious Disease*	2
Linguistics	2
Applied Mathematics [Mathematics Program Specialization]	3
Microbiology*	3
English	4
Geography	4
Psychology	5
Biochemistry & Molecular Biology	6
Germanic Languages	7
Neuroscience & Neurobiology*	7
Astronomy	8
Cell & Developmental Biology*	8
Hispanic Language & Literature	8
Mathematics	8
Political Science	8
Sociology	8
Biochemistry, Biophysics & Structural Biology*	9
Geology	9
Physics	9
Classics	10
Comparative Literature	10
Genetics & Genomics*	10

*Programs in the College that share faculty with the Health Sciences

The broad assessment of graduate studies conducted by the National Research Council has ranked 40 of UCLA's graduate programs—including 28 programs in the College of Letters and Science—in its highest ranks.

The top-ranked programs in the College are spread almost evenly across the Divisions of Humanities, Life Sciences, Physical Sciences, and Social Sciences.

“These high rankings for our graduate programs are a testament to the broad strength of the College, and reflect on the excellence of the entire educational experience here,” said Judith L. Smith, vice provost and dean for undergraduate education.

Only two other universities—UC Berkeley with 48, and Harvard with 46—had more programs that extended to the top 10.

The NRC assessed more than 5,000 research Ph.D. programs at 212 universities in 62 academic fields. It used data collected on the programs and their students and faculty across 20 measures, such as faculty quality, student support and outcomes, and program diversity.

In other comprehensive rankings of academic quality, UCLA continues to fare very well—especially in international rankings: The London-based *Times Higher Education* ranked UCLA 11th among the world's top 200 universities, and Shanghai Jiao Tong University's “Academic Ranking of World Universities” placed UCLA second among the world's public universities and 13th overall.

www.nap.edu/rdp

Alumnus Richard Heck wins 2010 Nobel Prize in chemistry

For the second year in a row, a graduate of the College has won a Nobel Prize.

Richard Heck, a two-time UCLA alumnus, has won the 2010 Nobel Prize in chemistry, making him the sixth graduate of the university to win a Nobel.

Heck developed a method to overcome the tricky process of joining carbon molecules, which in turn allows scientists to create any number of organic compounds. The process, known as the Heck reaction, is used in research worldwide. Heck's discovery in the 1960s meant that medicines and many compounds normally found only in small quantities in nature could be replicated in large amounts.

Heck received his B.S. from UCLA in 1952 and his Ph.D. from UCLA in 1954, both in chemistry. He is now a professor emeritus at the University of Delaware. Heck shares the Nobel with Japanese researchers Ei-ichi Negishi and Akira Suzuki.

"This chemical tool has vastly improved the possibilities for chemists to create sophisticated chemicals, for example, carbon-based molecules as complex as those created by nature itself," the Royal



Richard Heck

Swedish Academy said in a news release.

"I'm extremely grateful to have won," Heck said. "It was a big surprise to me. I didn't expect it. I don't think I'm going to do anything [to celebrate]. I just enjoy the feeling of having won."

This is the second year in a row that a UCLA alum has won a Nobel Prize; last year, Elinor Ostrom, who earned her B.A., M.A., and Ph.D. from UCLA, received the 2009 Nobel Prize in Economics.

Heck joins UCLA's five alumni laureates and five faculty Nobel winners to mark the 11th UCLA-affiliated Nobel Prize.

Save the Date

College Awards Dinner
March 29, 2011
6pm



Acclaimed book on Hurricane Katrina featured in the 2010 UCLA Common Book Program

All new Bruins in the College begin their undergraduate careers at UCLA by reading a common book that explores global problems and social justice.

Each year, the UCLA Common Book Program brings together all incoming freshman and transfer students in the College to share a single intellectual experience by reading a book that focuses on world issues or social justice.

For the 2010–11 academic year, new Bruins read *Zeitoun*, the acclaimed work by David Eggers that tells the inspiring story of Abdulrahman Zeitoun, a prosperous Syrian-American father who stayed in New Orleans during Hurricane Katrina.

The Common Book Program also includes discussion groups led by UCLA staff and community members for students during their first week on campus.

<http://www.orl.ucla.edu/commonbook>



UCLA Dedicates Terasaki Life Sciences Building



Attending the October 25 grand opening ceremony for the Terasaki Life Sciences Building are (from left) Carol Block, Chancellor Gene Block, Paul Terasaki, Hisako Terasaki, Dean of Life Sciences Victoria Sork, Owen Witte (Director of the Broad Stem Cell Research Center—CIRM Laboratory), Alan Trounson (CIRM President), Robert Klein (CIRM Chairman), and Danielle Guttman Klein.

A Bold New Tool to Explore the Mysteries of the Galaxy

UCLA astronomers are playing a major role in the creation of America's new airborne observatory.

How were millions of young stars able to form at the center of our Milky Way galaxy in the presence of an enormous black hole with a mass 4 million times that of our sun? Exploring the universe in the infrared spectrum is the prime mission of SOFIA, the world's largest airborne observatory that is scheduled to make its first scientific measurements in the next few months—with the major involvement of scientists from the College.

SOFIA (Stratospheric Observatory for Infrared Astronomy) is a modified 747 jetliner that carries a telescope that will provide the clearest view yet of the center of our Milky Way galaxy. SOFIA will make observations at 45,000 feet that are impossible from even the largest earth-based telescopes.

SOFIA will study the region of the electromagnetic spectrum that does not penetrate our atmosphere. SOFIA's telescope can detect this invisible infrared energy because it flies above 99 percent of the water vapor in the atmosphere.

Most of the radiation from the region around the black hole and the galactic center—some 26,000 light years away—is emitted in the infrared spectrum. Millions of young stars packed closely together in this region are obscured by enormous quantities of dust but are easier to observe in the infrared because infrared light can penetrate the dust. More star formation is occurring in this region than anywhere else in the galaxy.

“With SOFIA, we will be getting data that we really couldn't obtain any other way,” said Eric Becklin, UCLA professor emeritus of physics and astronomy and chief science adviser for SOFIA.

Studies by UCLA researchers have revealed that star formation is taking place in the immediate presence of the super-massive black hole.

“Our previous assumption was that the black hole would make that star formation next to impossible; the tidal forces would not allow the collapse of a cloud of gas and dust to form a star. But it's happening, within just a light year of the black hole,” said Mark Morris, a UCLA professor of physics and astronomy and co-chair of SOFIA's science steering committee.

“We are trying to understand, through observations using both short and long infrared wavelengths, what happens to the dust and gas that allows stars to form,” said Morris.

The stars near the black hole can be observed from the ground at shorter wavelengths—from the W.M. Keck Observatory in Hawaii, for example—but studying the dust emitted by the radiation from these stars requires the longer infrared wavelengths.

“We cannot observe planets at the galactic center—it's too far away—but we can see dust around newborn stars and we know that dust is destined to form planets,” Morris said. “We can study the dust and see what it is made of, and by knowing what it is made of and how big the dust grains are, we can model the evolutionary history of the dust and determine its fate.”

Other UCLA professors are participating in the SOFIA mission, including professor of physics and astronomy Ian McLean, who is principal investigator for

the FLITECAM research imaging instrument, which is scheduled to go on SOFIA by 2012. Hundreds of other scientists and engineers work on the mission.

SOFIA, based at NASA's Dryden Aircraft Operations Facility in Palmdale, was built to fly several times a week for the next 20 years—some 2,800 flights in all. A joint program of NASA and the German Aerospace Center, SOFIA will be flown by NASA pilots with up to 15 scientist-passengers in 8 to 10-hour trips.

Becklin and his team will determine each flight plan with the investigators whose research proposals have been accepted as part of the mission. He expects that UCLA physics and astronomy graduate students will fly aboard SOFIA and make discoveries based on their observations.

And when new scientific questions arise, “SOFIA will be right there to jump on the new questions and help us answer them,” Morris said. “When SOFIA lands, we can install a new instrument so it will always be on the cutting edge.”

“With SOFIA, we will be getting data that we really couldn't get any other way.”



SOFIA, a modified 747 jetliner, houses an observatory in its mid-section that, when flying at 45,000 feet, will provide the clearest view yet of the center of the Milky Way.

Migra

Historian Kelly Lytle Hernández has traced the little-known history of how Mexican immigrants slowly became the primary target of U.S. immigration law enforcement.

By Letisia Marquez

When the United States Border Patrol started in the early 1920s, the primary targets of the nation's immigration laws were Asians and Eastern Europeans. In fact, Mexican agricultural workers, who were valued by American farmers, were exempt from key restrictions, namely the national quota system that strictly limited the number of immigrants allowed to enter the U.S. each year.

However, by the middle of the 20th century, the U.S. Border Patrol had shifted its focus and was concentrating its efforts on policing undocumented Mexican immigrants—a practice that continues to this day, UCLA historian Kelly Lytle Hernández wrote in *Migra!: A History of the U.S. Border Patrol*.

Drawing on long-neglected archival sources in the U.S. and Mexico, Lytle Hernández uncovered the little-known history of how Mexican immigrants slowly became the primary target of U.S. immigration law enforcement, and demonstrated how racial profiling of Mexicans developed in the Border Patrol's enforcement of the nation's immigration laws.

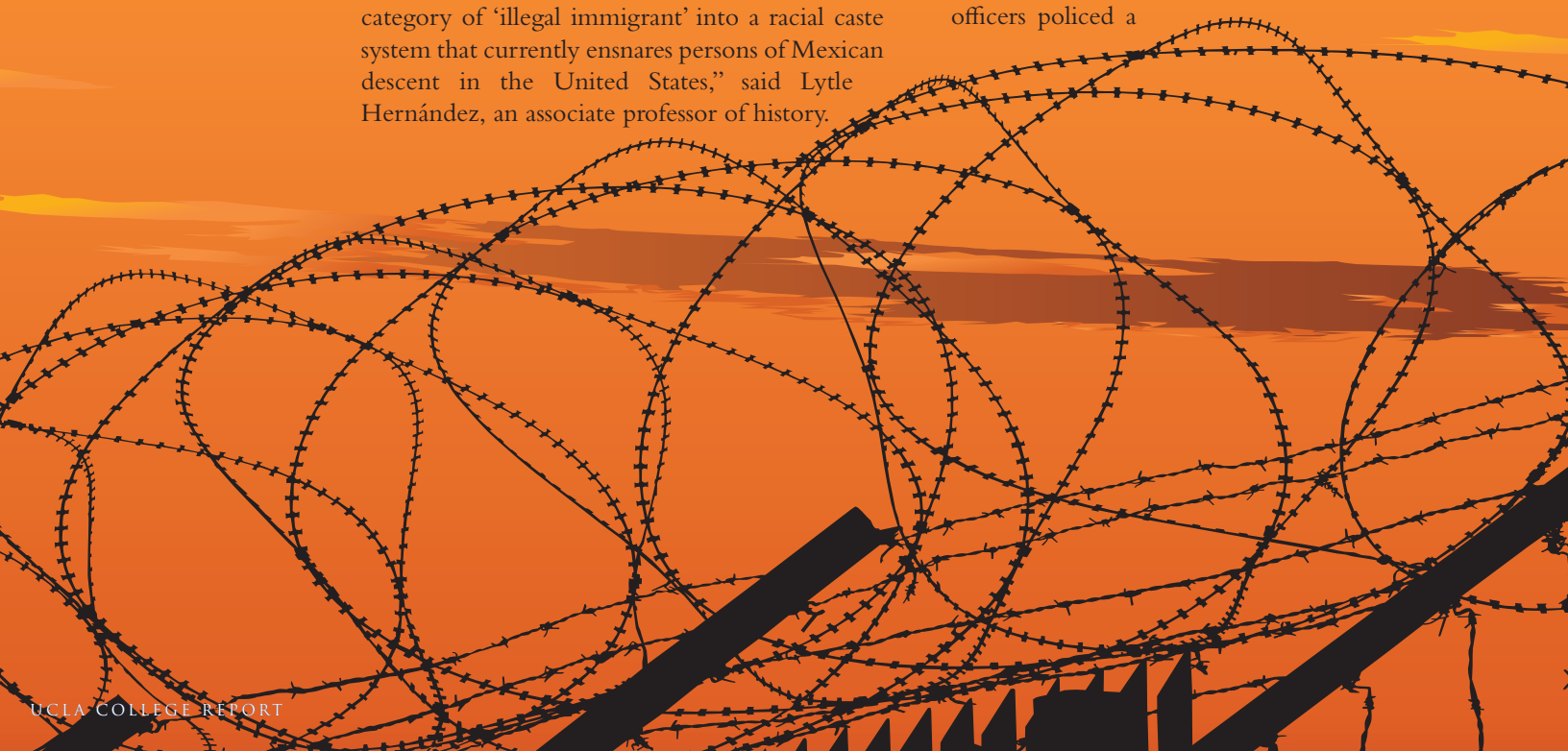
"The narrow enforcement of U.S. immigration restrictions transformed the broad political category of 'illegal immigrant' into a racial caste system that currently ensnares persons of Mexican descent in the United States," said Lytle Hernández, an associate professor of history.

The results of these policies are evident today in, for example, the debate over Arizona's recently-enacted law that allows police officers to check anyone's immigration status. While supporters of the law argue that racial bias will not result from local police assuming immigration enforcement activities, Lytle Hernández said that "race is at the heart of U.S. immigration control efforts."

Launched in 1924 as the law-enforcement arm of the U.S. Immigration Service, the Border Patrol was assigned to enforce the federal National Origins Act, which established a national quota system aimed at restricting immigration from certain geographical regions and countries—not including Mexico, whose surplus of farm labor was seen as a boon by U.S. agricultural interests.

"The national quota system favored immigrants from Western Europe and attempted to stop or dramatically curtail immigration from all other areas of the world," Lytle Hernández said. "However, the powerful lobby of southwestern agribusinessmen tempered the quest to create a 'whites-only' immigration policy by aggressively supporting an exemption for immigrant workers from Mexico."

In the early years of the agency, Border Patrol officers policed a



wide range of immigrants, and with little supervision or guidance from federal authorities, they were left to develop their own enforcement practices and priorities. In California and the Pacific Northwest, officers focused on policing undocumented Asians, particularly Chinese, as well as Eastern Europeans. In Florida, they searched for Haitians trying to enter the U.S. illegally. And in Texas, despite the law exempting many Mexican workers, officers set their sites on undocumented Mexicans.

That policing in Texas tended to occur less at the border itself than along the backcountry trails and borderland roadways, where Border Patrol officers used a “Mexican appearance” as the rationale for stopping and questioning hundreds of thousands of individuals, an approach that placed the broader Mexican American community under suspicion.

In addition, Lytle Hernández said, these officers were not averse to using immigration law enforcement to violently defend the racial divides between Mexicans and whites in the borderlands. In fact, the Border Patrol became something of a refuge for officers with violent tendencies.

Over time, the increased targeting of illegal Mexican workers was influenced by other important historical factors as well, said Lytle Hernández.

Before World War II, the majority of Border Patrol officers worked along the U.S.–Canada border. But the Bracero Program, launched in 1942 by the U.S. and Mexican governments to allow Mexican workers to enter the U.S. as temporary contract laborers, helped shift the Border Patrol’s national focus toward the U.S.–Mexico border.

The government-sanctioned program brought more than two million Mexican workers into the U.S. Only healthy, landless and surplus male agricultural workers from Mexican regions not experiencing a labor shortage were qualified to apply.

But many Mexican workers who didn’t meet the requirements of the Bracero Program tried to illegally cross into the U.S.

During these years, the Mexican government demanded that the U.S. Border Patrol intensify its efforts to deport undocumented Mexican immigrants who were not part of the program. The Border Patrol began raiding farms and worked with Mexican authorities to deport Mexican nationals to the interior of Mexico.

In 1953, Mexico also established its first national border patrol to discourage Mexicans from crossing into the United States. Mexican authorities, Lytle Hernández said, were key partners in policing unsanctioned Mexican immigration.

“While the Mexican government demanded protection for Mexican braceros from discrimination and abuse by U.S. employers, Mexican border officials helped the U.S. Border Patrol to erect fences designed to reduce illegal immigration by making undocumented border crossings more dangerous.”

While farmers decried the loss of workers and criticized the Border Patrol for racial profiling, Mexican American groups, including the American G.I. Forum, an influential Mexican American veterans organization, supported the increased enforcement, arguing that undocumented Mexican immigrants were taking good jobs away from Mexican Americans.

In the summer of 1954, the Border Patrol launched Operation Wetback to apprehend illegal Mexican immigrants, setting up roadblocks in California and western Arizona. As part of the campaign, officers stopped almost 11,000 illegal immigrants in one week. Officers also fanned out into Texas, Illinois and Mississippi in search of undocumented immigrants and by the end of the summer, they declared that one million Mexican nationals had been caught. “The day of the wetback is over,” officials stated.


In *Migra!*, Lytle Hernández argues that Operation Wetback was more a publicity stunt than an actual intensification of immigration control efforts.

“Operation Wetback of 1954 was little more than a larger-than-usual deployment of the Border Patrol’s familiar and failing tactics of migration control,” she said.

In the late 1950s and early 1960s, instead of trying to deport large numbers of Mexican nationals, the Border Patrol focused instead on arresting illegal immigrants who were trying to smuggle drugs into the U.S. or commit other crimes.

The “criminal alien” in the U.S.–Mexico border region, wrote Lytle Hernández, became the primary target of U.S. immigration law enforcement efforts.

Border Patrol officers found few criminal aliens, but they launched a major publicity campaign to overhaul their public image as a crime-fighting organization. Congress supported the shift from migration control to crime control by linking deportation to non-immigration crimes and providing additional resources to the Border Patrol for drug interdiction.

“The expansion of the Border Patrol since the 1960s had less to do with immigration and more to do with the rise of crime and punishment as a key element of social control in the United States during the late-twentieth century,” Lytle Hernández said. 

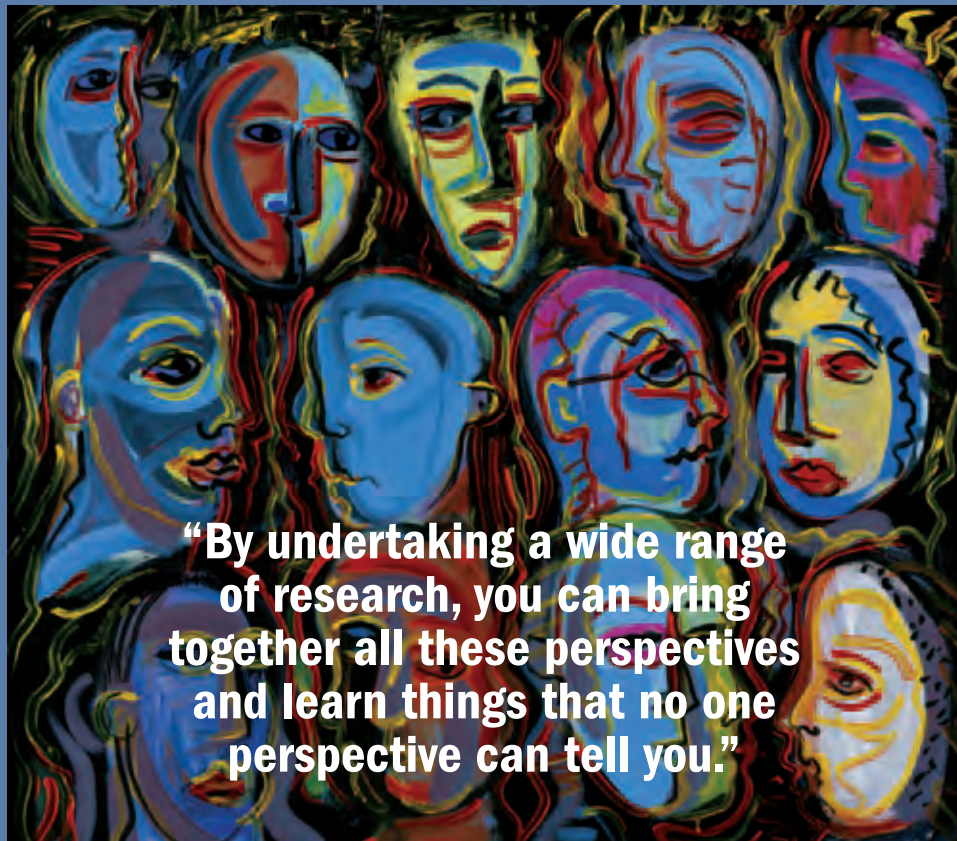
Kelly Lytle Hernández



“Narrow enforcement of U.S. immigration restrictions has transformed the broad political category of ‘illegal immigrant’ into a racial caste system that ensnares persons of Mexican descent.”

Making Sense of Our

INNER WORLDS



“By undertaking a wide range of research, you can bring together all these perspectives and learn things that no one perspective can tell you.”

By Robin Heffler

In the late 1970s, when Shelley Taylor was researching the psychological impact of breast cancer, she found that women with the disease coped with the emotional stress by developing overly optimistic beliefs about their condition. These “positive illusions,” as she termed them, actually contributed to good mental and physical health.

That discovery more than 30 years ago is among a vast number of research findings and theories that Taylor, a UCLA faculty member since 1979 and a distinguished professor of psychology since 2005, has produced over the decades since then. Her groundbreaking and ongoing contributions to three fields of psychology—health psychology, social cognition, and social neuroscience—prompted the American Psychological Association (APA) to honor her with its Lifetime Achievement Award for 2010.

“You are one of the most influential psychologists of all time, shifting fundamental paradigms, creating fields, producing elegant theory, and conducting rigorous research,” the APA’s citation reads. “As the founding mother of three fields. . .

you have motivated countless researchers to follow your lead. Your persistent ability to foresee critical issues before they become commonplace places you among psychologists with the greatest impact across the entire discipline.”

Over the years, the APA and numerous other organizations, including the National Institutes of Mental Health, have bestowed many honors on Taylor. She also has been elected to the Institute of Medicine, the American Academy of Arts and Sciences, and, in 2009, the National Academy of Sciences.

Taylor became interested in psychology after hearing her father’s stories about being a psychiatric nurse in southern Africa during World War II, when he set up the first mental hospital in Eritrea.

“He talked a lot about what it was like to treat shell-shocked soldiers,” Taylor said. But as an undergraduate at Connecticut College in the 1960s, Taylor realized that she was more drawn to research on social psychology than clinical practice.

Taylor’s work with breast cancer patients led to her founding the field of health psychology.

Shelley Taylor, winner of the 2010 Lifetime Achievement Award from the American Psychological Association, is a founder of three fields in psychology that explore the issues that profoundly affect mental and physical health.

“The fact that we had identified specific beliefs helpful to cancer patients led us to ask, ‘Are there often exaggerated positive beliefs that are helpful in general for normal cognition?’” said Taylor, who later wrote *Positive Illusions: Creative Self-deception and the Healthy Mind* and currently co-chairs UCLA’s Health Psychology Program.

“Psychology,” she said, “has a lot to say about things ranging from why people do or don’t practice good health behaviors to how they cope with chronic illness. I thought the best way to define this new field was to write a book giving an overview.” Taylor first wrote *Health Psychology* in 1986, and updates the book every three years. The book is used as a basic text for health psychology classes around the country.

In the mid-’80s, Taylor also began defining the parameters of another area of social psychology when she wrote the first of three editions of *Social Cognition*, which describes and analyzes how people process social information.

“It’s about how people make sense of their world,” she said, “including how people identify the causes of phenomena, infer the characteristics of others, decide what they believe about themselves, and use all that information to guide their behavior.”

Susan Fiske, for whom Taylor was a faculty advisor when Fiske was a graduate student, has collaborated with Taylor on all three editions of the book.

“She’s a wise mentor and inspiring role model who believes that in synthesis there is discovery,” said Fiske, now a professor of psychology at Princeton University. “So she’s not about ‘My theory is bigger than your theory,’ but rather, ‘How can they play together nicely?’ She also helped me to become a better writer early in my career, aiming to be both scholarly and entertaining, as well as clear.”

Ten years ago, Taylor began to focus on and received attention for studying how people’s social relationships and perceptions of their social network can affect health. She developed the widely recognized “tend-and-befriend” model, in which health is protected when people come together for support in stressful situations, a practice more common among women than men.

“The belief that others will be there for you is probably the most important psychosocial resource,” said Taylor, the

author of *The Tending Instinct: How Nurturing Is Essential to Who We Are and How We Live*. “It’s the best resource you can have for promoting your mental and physical health. The degree to which it’s important is amazing, on a level with smoking and blood lipids as a predictor of mortality.”

Taylor, who considers herself a social neuroscientist, increasingly has been examining the physiological basis of social psychology, and serves as director of the UCLA Social Neuroscience Lab.

She often collaborates with UCLA psychologists Matthew Lieberman and Naomi Eisenberger, as well as Teresa Seeman, UCLA professor of medicine. They have found that social support appears to protect health by reducing immune system responses to stress, thereby lessening the damage to stress regulatory systems that might otherwise occur.

Similarly, in seeking to understand the biological roots of “positive illusions,” Taylor has discovered that “one way they may work to protect health is by reducing the neuroendocrine and cardiovascular responses to stress.”

In other recent research, Taylor has been studying the role of hormones in the stress response.

“The hormones vasopressin in men and oxytocin in women go up when there is a satisfying relationship and when there is a highly distressing relationship,” she said. “Both hormones encourage the seeking out of social contact under bad circumstances and good.”

Her lab was also the first to document changes in the expression of genes in response to stress.

“Everyone was surprised by the idea that a specific gene could have opposite effects depending on the stressfulness of the environment,” Taylor said.

Motivating all of Taylor’s work is a desire to understand the larger question of why psychological and social resources profoundly affect mental and physical health. By undertaking a wide range of research, Taylor explained, “You

can bring together all these perspectives and learn things that no one perspective can tell you.”

As the APA observed in the citation for her Lifetime Achievement Award, “You demonstrate beautifully that in integration there is discovery.”



Shelley Taylor: said the American Psychological Association in the citation for Taylor’s Lifetime Achievement Award, “You are one of the most influential psychologists of all time, shifting fundamental paradigms, creating fields, producing elegant theory, and conducting rigorous research.”

Life Lessons Beyond the Lecture Hall

At the first College Summer Institute, new Bruins got a head start on university life that included a civic engagement project to deepen their involvement in the campus community.

By Alison Hewitt

In September, on a hill above UCLA's bucolic Sunset Recreation Center, incoming freshman Sunny Brar learned to tend a community garden in what she considered UCLA's best civics project.

Meanwhile, in the basement offices of the study-abroad center, freshman Vaspour Antanesian analyzed data from a survey he helped design for what he considered the campus' best civics project.

The two new Bruins both came to UCLA early to get a head start on college as part of UCLA's first College Summer Institute. The program gave 215 eager students a six-week sneak preview of college life, as well as a chance to live in the dorms, take their first general education class, and complete UCLA's writing requirement.

But what they may not have realized before they came here was that a unique opportunity awaited them: each student would be taking a civic engagement class and doing a project that would deepen their involvement in the campus community.

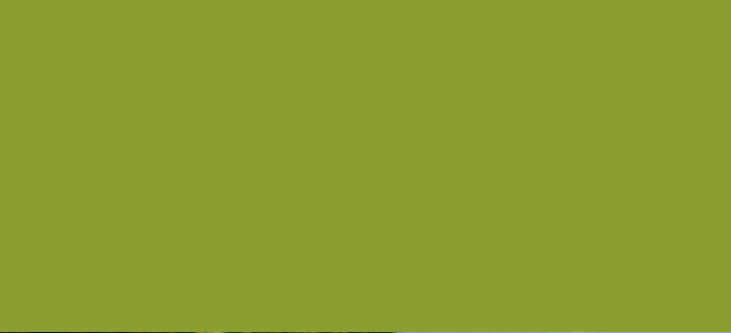
Brar and Antanesian's summer projects are just two examples of how UCLA is expanding learning beyond the classroom. Kathy O'Byrne, director of the Center for Community Learning, led the way in finding 40 campus partners who could offer meaningful work that matched students' interests.

"College isn't just about academic development; it's also about personal development and the learning that happens outside the classroom," O'Byrne said. "Civic engagement is what we do at UCLA. From the first day, the message is that UCLA students are engaged."

The civic engagement course requirement gave the incoming freshmen a way to become involved with campus departments and organizations, helping students get familiar with the university at the same time they contribute to their new home. The Center for Community Learning strives to turn engagement into a habit for all Bruins, and offers students a roadmap to future opportunities, such as AmeriCorps programs, internships, service-learning courses, and a civic engagement minor.

"Research shows that people learn best when they're actively involved," O'Byrne said. "The civic engagement component builds the community and creates the expectation that being engaged is part of what it means to be at UCLA and a global citizen. UCLA goes beyond lecture halls."





“College isn’t just about academic development; it’s also about personal development and the learning that happens outside the classroom. Civic engagement is what we do at UCLA. From the first day, the message is that UCLA students are engaged.”

It was a great opportunity, said Antanesian, who was one of four Bruins who worked in the International Education Office. They helped develop, administer, and analyze a survey of all Summer Institute students about whether they would study abroad and why.

The institute “was a good transition between high school and college,” said Antanesian.

“It was a chance to see everything and take some smaller classes. But doing the survey was amazing. It was the most enjoyable part of the program.”

Antanesian, who chose UCLA in part for the university’s travel-study programs, was fascinated to learn how other students decide whether or not to travel. The International Education Office will use the survey results to reach out to undergrads who erroneously assumed studying abroad is an unaffordable luxury or a waste of time that could delay their graduation.

“What we did was hands-on,” Antanesian said. “We didn’t just learn—we contributed.” He and a friend plan to start a study-abroad student club to encourage international travel experiences.

Robbie Totten, a graduate student coordinator, led the incoming freshmen in discussions that related civic engagement to their lives. Many students feel like they must chain themselves to their books to succeed, but research actually shows that students who engage with their communities fare better in the classroom, Totten said.

“The students had a lot of fun working on their projects, and they gained skill sets you can’t obtain in the classroom,” Totten said. “The idea is to be a participant, not a spectator.”

The projects also helped introduce students to places and

people they would have never otherwise visited and met.


New theater major Christopher Adams-Cohen was wowed when his project in the Department of World Arts and Cultures introduced him to UCLA’s dance program.

“Their performance spaces are absolutely amazing, so I definitely plan to take a dance class now,” Adams-Cohen said. “I’m also seeing the way UCLA engages with the Los Angeles artistic community by opening up studios to them. UCLA is helping make dance a bigger part of the L.A. culture by getting involved in the community.”

Across campus, staff and faculty benefitted from the new Bruins’ work. Professor Paul Bunje, executive director of the Center for Climate Change Studies in the Institute of the Environment (IOE), developed a project for six students. The IOE is leading the way in developing L.A. County’s regional climate plan, and the students helped dissect similar plans from around the world.

“One of the challenges of writing a climate action plan is that you write it the way you’ve learned to write it,” Bunje said. “The greatest thing about these students is that they don’t know much yet. They’ve got unique perspectives and creative ideas.”

Hopefully, the experience is also helping the students see everyday experiences as inspiration, Bunje said. “It’s forcing them to think about what they do at the beach or with friends or how they drive to work. Those are places they can find ideas for a climate action plan.”

Making those connections will help them gain more from their education. “The best scientists are the ones who are heavily engaged. The best politicians are the ones who can talk to all different people,” Bunje said. “Those are the kinds of citizens we want to produce at UCLA.” 

The Changing Nature of Forging Friendships

A new study of students on Facebook by sociologists Andreas Wimmer and Kevin Lewis found that race is trumped by social connections and geographic origins in friendship-building.



Kevin Lewis and Andreas Wimmer: “We both were surprised by the strength of social pressure to return friendships,” said Lewis.

Is sharing a common racial heritage the most important factor when young Americans form new friendships?

A UCLA-Harvard study of American college students who participate in Facebook suggests that race may not be as important as previously thought in determining how friendships are formed.

“Sociologists have long maintained that race is the strongest predictor of whether two Americans will socialize,” said Andreas Wimmer, the study’s lead author and a sociologist at UCLA. “But we’ve found that birds of a feather don’t always flock together. The people you get to know in your everyday life, where you live, and your country of origin, or social class can provide stronger grounds for forging friendships than a shared racial background.”

The study by Wimmer and Lewis illustrates a new trend in social science research: to mine data from social networking sites to study human behavior, including relationships, identity, self-esteem, popularity, and political engagement.

“We’ve been able to show that just because two people of the same racial background are hanging out together, it’s not necessarily because they share the same racial background,” said co-author Kevin Lewis, a Harvard graduate student in sociology.

In fact, the strongest attraction turned out to be plain, old-fashioned social pressure. For the average student, the tendency to reciprocate a friendly overture proved to be seven times stronger than the attraction of a shared racial background.

“We were surprised by the strength of social pressure to return friendships,” said Lewis. “If I befriend you, chances are that you’re going to feel the need to balance things out and become my friend, and often the friend of my friends.”



Other mechanisms that proved stronger than same-race preference included having attended an elite prep school (twice as strong), hailing from a state with a particularly distinctive identity such as Hawaii or Illinois (up to two-and-a-half times stronger), and sharing a national origin (up to three times stronger).

Even such routine facts of college life as sharing a major or a dorm room often proved at least as strong, if not stronger, than race in drawing together potential friends. Sharing a dorm room, for example, proved to be one of the strongest formulas for friendship formation, ranking only behind reciprocating friendship as a friendship-forging force.

When they hit on the idea of using Facebook to study social networks, Wimmer, Lewis, and colleagues were looking for a way to study a network of friendships as it developed. They set their sights on freshmen of the class of 2009 at an unidentified university with a high participation rate on the social networking site.

Wimmer and Lewis decided not to focus on Facebook's most basic indicator of a social connection: its "friend" feature, through which students send a request to others on the network to become friends.

"We were trying to go for a stronger measure of friendship than just clicking a link and connecting with someone over the web," Lewis said.

The researchers followed the 736 freshmen who posted photos of fellow classmate-friends and then took the additional step of "tagging" the photos with those classmates' names, a step that causes the photos to be displayed on the friends' Facebook profiles.

"Tagged photos are by-products of people who spent time together in real-life social settings," Wimmer said. "They're an echo of a real interaction that students also want to have socially



recognized. They're not like some online communication that only occurs over the web."

Wimmer and Lewis scrupulously tracked the tagged photos as the freshmen posted them, at an average rate of 15 unique "picture friends" per student. Armed with housing information supplied by the university and personal details posted on profiles, the researchers then set out to statistically analyze dozens of characteristics shared by the freshmen who tagged each other.

While the research was approved by Facebook, the researchers did not receive special permission to bypass privacy settings and only used information that could be seen by other students at the same university.

True to past research, the sociologists initially watched same-race friendships develop at a much higher rate than would be expected if the relationships had occurred randomly, based on the racial makeup of the freshman class.


But when the researchers dug deeper, race seemed less important than a number of other factors in forging friendships.

Much of what at first appeared to be same-race preference, for instance, ultimately proved to be preference for students of the same national origin. This was especially the case for Asian students, who befriended each other nearly three times more frequently than would be expected if relationships were formed on the basis of chance.

But once the researchers controlled for the attraction of shared countries of origin, the magnitude of racial preference was cut almost in half. The appeal of shared ethnicity was strongest for Vietnamese freshmen, who befriended each other at three times the rate that average students befriended each other on the basis of a shared racial background.

"This means that students are going into social settings and saying to themselves, 'Great, there's someone else who is Vietnamese,' not, 'There is someone else who is Asian,'" Wimmer said.

Once the researchers controlled for the social pressure to return friendships, the importance of racial similarity in friendship formation further receded. Accounting for the pressure to return friendships and to befriend friends of friends, same-race preference dropped by one-half for Latinos and two-thirds for African Americans.

"Facebook data on college students allowed us to peer behind race categories to see what other commonalities might possibly be at work in drawing together potential friends," Wimmer said. "It's a natural experiment in mixing people from all over the country and seeing how they behave in this new environment." 

"Tagged photos are by-products of people who spent time together in real-life social settings. They're an echo of a real interaction that students also want to have socially recognized."



Harryette Mullen, professor of English and winner of the 2010 Jackson Prize for Poetry, uses her writings to explore globalism, the African American experience, women's issues, and a love of wordplay.

The Complexity of Emotion

By Meg Sullivan

They fill only a few shoe boxes, but the family letters, photographs, postcards and telegrams occupy a huge space in Harryette Mullen's heart.

The documents, which belonged to Mullen's maternal grandmother until her death two years ago at 94, are tangible links to a complicated family history that Mullen has only recently begun to unravel.

For instance, she discovered that her grandmother's father, a minister, was born into slavery—a surprise even to his own daughter.

"To even think about that ... I just kind of started reeling," said Mullen, a UCLA professor of English and African American studies.

Mullen has also uncovered family links to the pan-African movement led by Marcus Garvey, to the U.S. Colored Troops who fought for the Union during the Civil War, and even to the Confederacy. After fighting for the South, a white ancestor fathered 10 children, including Mullen's paternal great-grandfather, with one of his family's former slaves.

"This family history project has uncovered some stories that I would like to write about, but I still have to get through the emotion," Mullen said.

Still, if anyone is prepared for the task, it's Mullen, who has taught American poetry, African American literature, and poetry writing at UCLA since 1994.

"Mullen always acknowledges the complexity of blackness, femaleness, and poetry," said Malin Pereira, an English professor at the University of North Carolina and an authority on Mullen. "She makes meanings proliferate, and that is neat to watch."

Pereira isn't alone in her enthusiasm for the poet whose work explores women's issues, the African American experience, globalism, and a love of wordplay, including acrostics, anagrams, homophones, parodies, and puns.

Mullen's 2002 poetry collection, *Sleeping with the Dictionary*, was a finalist for the National Book Award, the National Book Critics Circle Award, and the *Los Angeles Times* Book Prize. She received a PEN/Beyond Margins Award for her 2006 poetry collection, *Recyclopedia*.

And earlier this year, Mullen was selected as the recipient of the 2010 Jackson Poetry Prize, an annual award that honors an American poet of "exceptional talent who deserves wider recognition." Judges described Mullen's work as "brilliant and enigmatic, familiar and subversive. Like jewels, her poems are multifaceted and shoot off lights."

Mullen belongs to a generation of African American poets who came of age after the civil rights movement, said Pereira, who interviewed Mullen for a forthcoming book.

That generation benefitted from the successes of black poets in 1960s and '70s, but its members feel less pressure than their predecessors to articulate a political agenda, Pereira said.

"They feel free to explore their poetry and not feel like they have to conform to any prescriptions of what poetry should be," she said. "They take this moment and run with it."

With a wide range of styles and approaches, Mullen's work epitomizes this freedom, said Pereira.

"Her first poems were very narrative and accessible," Pereira said. "She's grown more experimental and complex. Now she has a very high stature in experimental poetry, especially as connected to

Exploring the Dark Content

*This dream is not a map.
A poem is not the territory.*

*The dreamer reclines in a barbershop
carpeted with Afro turf.
In the dark some soul yells.*

*It hurts to walk barefoot
On cowrie shells.*

Harryette Mullen: selections from *Sleeping with the Dictionary*

Eurydice

Can't wait to be sprung from shadow,
to be known from a hole in the ground.
Scarcely silent though often unheard.
Winding, wound. Wounded wind.
She turned, and turns. She opens.
Keep the keys, that devil told her.
Guess the question. Dream the answer.
Tore down almost level.
A silence hardly likely.
Juicy voices. Pour them on.
Music sways her, she concedes,
as darker she goes deeper.

women's issues."

Clearly, Mullen defies expectation. With a love of bright colors and intricately patterned fabrics, the author radiates cheer and warmth. She has a throaty, infectious laugh. No question about her sources of inspiration or process is too personal. Her answers are so clear and specific, in fact, that she makes writing poetry sound as simple and effortless as following a recipe.

"She's very playful and down to earth, as well as extremely intelligent. It's a wonderful combination," said Barbara Henning, a Long Island University professor of English and author of the forthcoming collection of conversations, *Looking up Harryette Mullen*, to be published in the spring by Belladonna Press.

Henning interviewed Mullen about the inspiration behind all 57 of the poems in *Sleeping with the Dictionary*.

"I was teaching about *Sleeping*," Henning said, "and Harryette and I are good friends, so I called her and asked if I could interview her about how she wrote the poems. I wanted to share her creative process with my writing students. She is so inspiring."

Mullen credits her parents' divorce during her childhood with compelling her to write and instilling a love for the written word. Her father, a social worker, moved to Chicago, while Mullen, her sister and her mother remained in Fort Worth, Texas.

"Whenever we would ask about him, my mother would say, 'Here's some stationery,'" Mullen recalls. "'Go write to your father. Ask him any question you want.'"

As the name of her best-known collection implies, Mullen often finds inspiration in her trusty copy of the *American Heritage Dictionary*. But she also plumbs less lofty sources—ad copy, newspaper text, and well-worn sayings.

"Often the inspiration is something very simple, very direct, very easy," she said. "But just because the reader is outside of the poet's head, it's not obvious."

"I think we all are poets,
if only in our dreams."


Sometimes she artfully alters existing text. An example is "Xenophobic Nightmare in a Foreign Language" in *Sleeping*. The text is the Chinese Exclusion Act of 1882, which targeted Chinese immigrants. Every place where the word "Chinese" or "Chinese immigrant" originally appeared, she substituted the word "bitter labor,"

which is the actual meaning in Chinese of the racially derisive term "coolie."

Mullen also is a great believer of keeping a notebook at her bedside so she can jot down dreams.

"I think we all are poets, if only in our dreams," she said.

Still, she worries that she may have hit a creative wall with her genealogical investigations, which she still hopes to mine for poetry, provided she can come to terms with her feelings about her discoveries.

"Poetry is that very primal need to deal with what is unknown and to try to make it somehow known," said Mullen, "even if it's known in an intuitive way and not necessarily a rational or completely conscious way." 

Harryette Mullen. Of her work, the judges for the Jackson Poetry Prize said: "Like jewels, her poems are multifaceted and shoot off lights."



A Wondrous Machine to Unlock the Secrets of the Universe

UCLA scientists are playing pivotal roles in the international consortium of researchers seeking fundamental insights about the Big Bang.

By [Stuart Wolpert](#)

It weighs more than 13,000 tons and contains 75 million sensors. It has a detector like a digital camera that can take 40 million photographs per second. And through the work of more than 2,500 scientists and engineers from 38 countries—with UCLA physicists playing a lead role—the Compact Muon Solenoid Experiment (CMS) will lead to extraordinary discoveries about the nature of the universe.

CMS (*see photo*) is designed to measure the momentum, direction, and energy of the particles that remain when new particles decay. The experiments conducted with CMS will re-create conditions that existed less than a billionth of a second after the Big Bang, recording collisions of protons at energies as high as existed just after the Big Bang. Eventually, the experiments will include nearly one billion collisions per second.

These repeated, controlled collisions are likely to yield new insights into the Big Bang, the building blocks of the universe, the mysterious properties of dark matter, and perhaps even extra dimensions in the universe, as they usher in a new era of particle physics research.

Located at the CERN Laboratory outside of Geneva, CMS is one of the main experiments of the Large Hadron Collider (LHC), the world's largest and highest energy particle accelerator, and one of the most complex scientific instruments ever built. Ten thousand people from 60 countries helped to design and build the LHC and its experiments, including scientists, engineers, technicians, and students from more than 90 U.S. universities and laboratories supported by the Department of Energy (DOE) and the National Science Foundation (NSF).

UCLA physicists and engineers have featured prominently in the collider's work. Seven UCLA physics professors and their research groups have contributed to CMS. Many UCLA professors, researchers, postdoctoral scholars, and graduate students have made major contributions to the research over many years, and UCLA scientists have built major portions of CMS. Indeed, when *Newsweek International* published a cover story in 2008, titled "The Biggest Experiment Ever," almost all the equipment in the cover photo came from UCLA.

UCLA's involvement started with physics professor David Cline, who two decades ago was one of the founders of the CMS Experiment—one of the collider's two large general-purpose experiments. Cline continues to be an active researcher on the project.

"It has been immensely gratifying to see the UCLA-built parts of CMS performing so well," said Jay Hauser, UCLA professor of physics who is a member of the management board for CMS. "I've spent a good part of my professional career on this experiment, starting in 1995, and am now eager to see the discoveries that will be made by this device. The UCLA scientists, including researchers Mikhael Ignatenko, Greg Rakness, and Viatcheslav Valuev, have done magnificent work in



“We’re going to study the Big Bang as far back as we can take it.”

making a very complicated detector work considerably better than even we originally hoped.”

Robert Cousins, UCLA professor of physics who started working on CMS in 2000 and has served as a leader of the CMS Experiment, is hopeful the LHC will unlock extraordinary discoveries about the nature of the universe.

“We’re going to study the Big Bang as far back as we can take it,” said Cousins, whose research group is supported by the DOE, and who is principal investigator of a CMS grant funded by the NSF.

“The fundamental questions,” Cousins said, “were asked by the ancient Greeks: Where did we come from? What are we made of? How did the universe evolve and what are the forces of the universe?”

“Nature likely contains undiscovered forces,” he added. “The history of physics is one of unification of ideas. Any successful attempt to unify the known forces of nature will almost certainly unify some unknown forces of nature at the same time. The job of experimental physicists is to go find those forces.”

Historically, high energy particle physics has addressed the smallest pieces of matter and the forces between those objects.

“In the last few decades, an enormous amount of progress

has been made in cosmology, which addresses very large questions such as how the universe evolved from the Big Bang,” Hauser said. “If you run the equations of general relativity for cosmology back to the Big Bang, you also need to know what the smallest objects in nature are and what the forces are between them in order to get close to the Big Bang.”

“The cosmology measurements of UCLA professor of physics and astronomy Edward Wright constrain the speculation of what the forces are between particles, what the smallest particles are, and what dark matter can be,” Hauser said. “There is much speculation about what dark matter might be since it is not ordinary matter.”

With a few exceptions, the particles that the scientists make will decay into lighter particles—some common matter like electrons; others are particles that are well understood, such as muons, a heavy version of an electron that decays after one-millionth of a second.

“My thesis experiment 30 years ago had seven channels to detect photons and electrons,” Cousins said. “The experiment I did after my thesis had a couple hundred. CMS has more than 75,000. We’re going to find out what nature has in store for us.”

In nearly 60 years at UCLA—first as a student and then a renowned faculty member in the philosophy department—David Kaplan has won kudos for his scholarship, his teaching, and his “boyish enthusiasm that is a delight to witness.”

Defining, Not Defying, Logic

By Robin Heffler

David Kaplan is celebrated by colleagues and students alike for being a brilliant, enthusiastic, and groundbreaking philosopher. They point to his energy and creativity in expanding his subfield—the philosophy of language, and the theory of meaning in language. He has been honored repeatedly for his research and teaching, and two academic conferences have been held specifically to explore his work.

So, it's hard to believe that Kaplan—the Hans Reichenbach Distinguished Professor of Scientific Philosophy, who received his baccalaureate and doctoral degrees from UCLA and has spent 46 years as a UCLA faculty member—almost wasn't accepted to the university as a student.

Initially rejected as an undergraduate because his entrance exam and grades were too low, Kaplan was required to take courses at Pasadena City College to show that he was capable of doing college-level work. In 1951, Kaplan entered UCLA as a freshman—on academic probation.

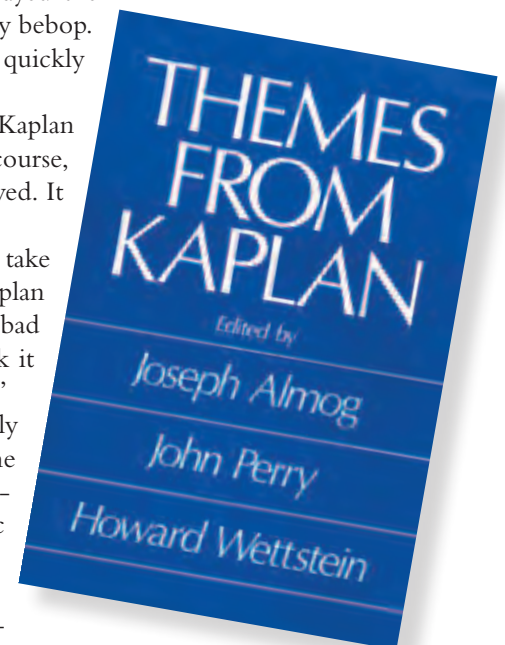
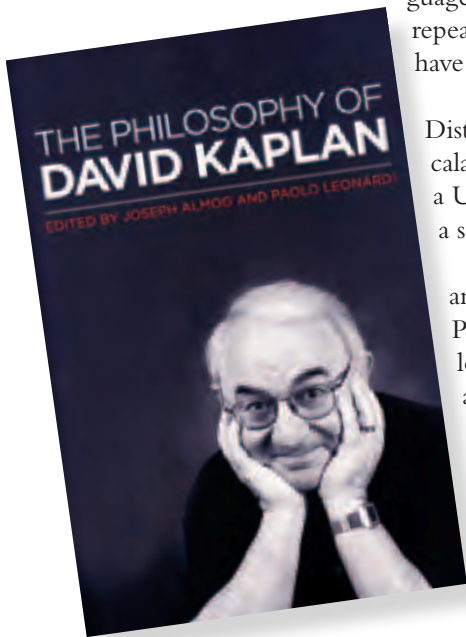
“When I came to UCLA, the only thing that interested me was music,” said Kaplan. “In high school, I had played the trumpet in bands and was mad about jazz—especially bebop. At UCLA, I fell in with the jazz players, but learned quickly that I was completely outclassed in that company.”

His freshman counselor recommended that Kaplan take the philosophy department's symbolic-logic course, which, the counselor said, was a great course that everybody loved. It happened to be taught by her husband, Donald Kalish.

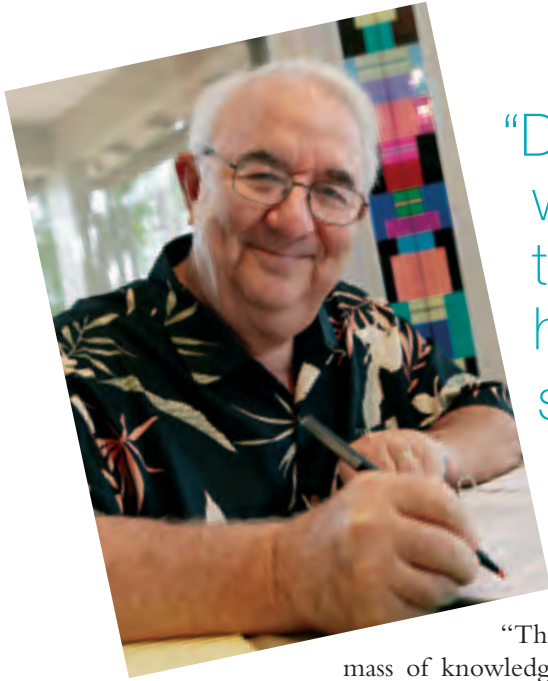
“I asked, ‘What do you need to know as background to take it?’ ‘Nothing,’ she replied. ‘That's my kind of class,’” I said. Kaplan explained. “I have always had a terrible memory and was very bad at retaining data. But once I understood an issue, I could think it through—like a computer with a fast processor, but no storage.”

It turned out that Kaplan was “nuts about” the course, partly because of the teaching skills of Kalish, but also because of the “purity and intellectual precision” of the subject. Kaplan's enthusiasm and mastery of logic led to his being hired to grade logic homework while still a lower-division student and becoming “a sort of teacher's pet” of the logicians in the department.

In the 1970s, Kaplan was drawn to the work of the philosophy professor Richard Montague, and Terence Parsons, who later joined the UCLA faculty, when they bridged what used to be an academic divide between the language of symbolic logic and natural language.



David Kaplan: "I have a terrible memory and was bad at retaining data, but good at thinking things through on the spot—like a computer with a fast processor, but no storage."



"David combines a boyish enthusiasm with an astonishing logical acumen that is a delight to witness. One can't help but become interested in the subject of his lectures."

"They integrated the mass of knowledge and techniques that had been used to study formal symbolic, or mathematical, languages and applied them to studying the syntax of natural languages," Kaplan said. "That was really exciting because it brought together the mathematical with the humanistic side of logic."

During this period, Kaplan developed what became his best-known work about meaning in language. He developed a theory that extended techniques of formal logic to apply "indexicals" such as "I," "here," "now," "today," and "yesterday"—words that we all know how to use, but that mean something different when used by different speakers on different occasions. It had been claimed that this variability in meaning made it impossible to apply the concepts of logic to such words, but Kaplan solved the problem by adding a rigorous concept of *context* to the logical apparatus. The book that features this work was recently cited as one of the five most important volumes in the philosophy of language.

Testifying to his influence are international conferences held on his work, among them a 1984 conference at Stanford, "Themes from Kaplan," and a 2001 international conference held in the Republic of San Marino, "David Kaplan's Contributions to Philosophy," each of which resulted in a published volume (*see illustrations*).

"Together with Saul Kripke from Princeton and Keith Donnellan from UCLA, David brought a 'Copernican revolution' to the philosophy of language," said UCLA philosophy professor Joseph Almog, one of the organizers of the two Kaplan conferences. "Their new model suggested a different cognitive picture of thinking and using language, one in which the mechanics are not in the head of each person, but in community-wide communication mechanisms spanning long stretches of human history."

Over the years, Kaplan said, the UCLA philosophy department has grown strong not only in logic and the merger of


linguistics and logic, but in ethics, epistemology, and history as well. It also has benefited from a software program he created in 1986 in collaboration with Robert Martin, a former UCLA philosophy faculty member. Designed for the department's introductory logic courses and now known as *Logic 2010*, the program is used by students in logic courses worldwide.

Kaplan's influence on teaching is also apparent to another former student who has his own distinguished career, UC Santa Barbara philosophy professor Tony Anderson.

"David Kaplan's teaching has been a model in my own career," Anderson said. "He combines a boyish enthusiasm with an astonishing logical acumen that is a delight to witness. One can't help but become interested in the subject of his lectures."

Kaplan's teaching honors include the UCLA Distinguished Teaching Award along with the Harvey Eby Award for the Art of Teaching, the Provost's Award for Innovation in Teaching with Technology, and *UCLA Today's* Teacher of the Century award. In 2003, Kaplan's doctoral students mounted a conference titled, "David & His Many Students."

Kaplan, his wife, and children all received graduate degrees from UCLA and all continue to serve the university in various capacities. His wife, Renee, whom he met in her first symbolic-logic course in 1951, received her doctorate in clinical psychology from UCLA and is Director of Quality Assurance at UCLA's Counseling and Psychological Services. His daughter, Valery Chamberlain, received a medical degree from UCLA, and is an associate professor of psychiatry in the UCLA David Geffen School of Medicine. His son, Jordan, received his MBA from UCLA, and is a member of the Board of Advisors of the Medical Center as well as of the Emmett Center in the Law School, the Ziman Center in the Anderson School, and the Lab School in the Graduate School of Education and Information Studies.

Although now 77, Kaplan said, "I have no intention of ever retiring. UCLA is a great institution and there is no set of colleagues that I would rather have, or think I could learn more from, than those in the philosophy department here." 

The Amazing Regulation of the Human Gene

Xinshu (Grace) Xiao works with the most advanced computation modeling and data technology to analyze the role of alternative gene splicing in medical conditions and diseases.

By Aaron Dalton

“With bioinformatic tools, we can run mutations through Ultra High Throughput Sequencing techniques to find out which mutations are potentially functional and therefore might make the most likely targets for medical treatment.”

Several years ago, when Xinshu (Grace) Xiao was a graduate student, she worked on a NASA-funded research study that investigated the strain on the hearts of astronauts when returning to earth from outer space. Xiao and other investigators explored the possibility that they could help the heart readjust to Earth’s gravity by enhancing its regulation through the autonomic nervous system.

If NASA wanted to find regulatory information from the brain’s nervous system, why look at cardiac signals from the heart?

“It turns out that when you split the signals into different frequencies, you can learn a lot about regulatory nervous signals by using mathematical modeling and other methods of computational analysis,” said Xiao.

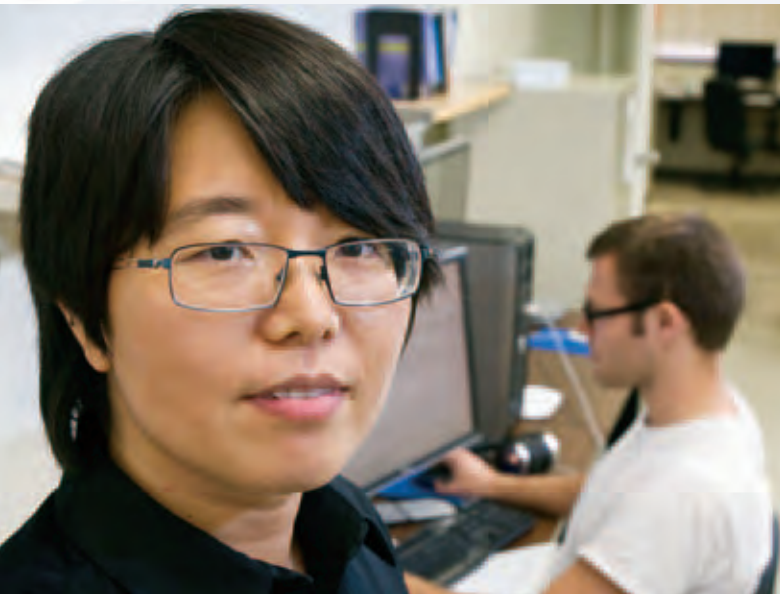
Today Xiao is an assistant professor at UCLA in the Department of Integrative Biology and Physiology, and winner of a 2010 Research Fellowship Award from the Sloan Foundation. Xiao no longer studies gravity or the nervous system, but her earlier work hooked her on the amazing potential of computational modeling and bioinformatic data analysis—tools that she now applies to the study of gene regulation and gene expression.

Human life is infinitely complex, but the basics of genetics are much simpler, based on strands of DNA that are composed of approximately three billion pairs of four chemical bases—adenine (A), thymine (T), guanine (G), and cytosine (C).

The technical definition of genes can be complex, but we can think of them as being distinct segments of DNA involved in the production of large molecules, typically proteins. The instructions in our genes get ‘translated’ into these proteins through a process called *gene expression*.

Xiao and her team use the most advanced computational techniques and tools to study what happens when genes express themselves—often in surprising ways.

A few decades ago, Xiao explains, people used to think that a certain gene always produced a certain protein. Then



Grace Xiao with Christopher Greer, who as an undergraduate worked in Xiao’s lab and won a Northrup Grumman/Litton Scholarship, as well as Dean’s Prize in UCLA’s 2010 Science Poster Day.



researchers had a breakthrough—a single gene could generate different proteins through a process called *alternative splicing*.

Just two years ago researchers found out that the issues involved in alternative gene splicing were even more complex than they suspected. Earlier studies had suggested that about 60 percent of all human genes engaged in alternative splicing. Using advanced technology called Ultra High Throughput Sequencing, scientists discovered that almost all human genes—as much as 90 percent of them—are involved in alternative splicing.

Why does alternative splicing matter? Genetic disease or abnormalities are generally discussed in terms of ‘mutations’—errors in the sequence of base pairs that make up the genome. In lay terms, a mutation is like a cake recipe that accidentally substitutes salt instead of sugar with potentially disastrous results.

But the findings on alternative splicing suggest that all the base pairs can be in the right order, the gene can look normal and yet it might still encode for something completely unexpected. To continue the recipe analogy, it’s as though you follow a recipe for apple pie, but sometimes end up getting chocolate cake or blueberry muffins.

Why is alternative splicing important to human life? It turns out that humans have fewer genes than expected. Those billions of base pairs only add up to around 25,000 genes, not nearly enough to produce the approximately 100,000 proteins that humans need to function. Fortunately, alternative splicing ensures that each gene can produce several different proteins.

“Alternative splicing is amazingly regulated,” says Xiao. “The genes in a newborn baby’s heart may be spliced differently than the genes in an adult heart. Differences in genetic regulation show up not only in difference stages of development, but also in some diseases compared to normal conditions.”

This is Xiao’s mission—to use the latest Ultra High Throughput technologies to analyze the role that alternative splicing could play in certain medical conditions and diseases.

For instance, her lab is collaborating with UCLA professor of medicine Yibin Wang on a heart failure study to see what role abnormal splicing and other gene expression events may play in heart disease.

Xiao’s lab even has a special capability to identify promising leads and then conduct immediate follow-up experiments.

“We run bioinformatics and molecular biology experiments in parallel,” says Xiao. “That means we can combine computational predictions with experiments to validate what we predict.”

Another Xiao project looks at brain tumors to see how gene splicing might be regulated differently in cancerous cells. Here too, the picture is complex—sequencing technology has shown that cancer genomes are full of different types of mutations, but it’s not immediately obvious which mutations are important and which are red herrings. Once more, bioinformatic computing power plays a key role.

“With bioinformatic tools, we can run these mutations through the Ultra High Throughput Sequencing techniques to find out which mutations are potentially functional and therefore might make the most likely targets for medical treatment,” said Xiao.

The sheer complexity of the problems under consideration is impressive. Every new analytic technology that sequences the genome faster also reveals that our genes are more marvelously versatile than we ever dreamed.

Why so complicated? Xiao speculates that alternative splicing may actually deserve some credit for our species’ reproductive success.

“Having so many different alternative ways to splice and express genes may actually be advantageous from an evolutionary perspective,” suggests Xiao. “If people are under environmental stress, having diverse patterns of gene expression could enable them to adapt more quickly to environmental changes.”



RECALLING THE ARCHITECTURE OF THE SUN

Art historian Thomas S. Hines talks about his acclaimed new book on the birth of the modern architecture movement in Los Angeles.

Two years after accepting a position as an acting assistant professor in history and architectural history at UCLA, Thomas S. Hines moved into an apartment building near campus that was flagged in a guide as being architecturally significant.

The architect? The modern master Richard Neutra.

Hines' decision to live in the structure would set the course of his career. The building manager introduced Hines to Neutra, who in turn introduced the young academic to a circle of leading Los Angeles modernists.

Forty years later, Hines is the world's foremost authority on the architect who is credited with helping to popularize modern architecture on a residential scale. In addition to a range of other topics, Hines has published extensively on Neutra. He has also organized three museum exhibitions of his work, the most recent being a critically-acclaimed display last year of Neutra's drawings at the Los Angeles Public Library.

Hines still lives in a Neutra-designed apartment near campus. His latest book is *Architecture of the Sun: Los Angeles Modernism 1900–1970* (Rizzoli), a mammoth 755-page illustrated history of the larger modern movement in Southern California. Writer Meg Sullivan talked to Hines about the book, which was a decade in the making.

What is the contribution of Los Angeles to architectural history?

Los Angeles is one of the half-dozen or so most important places in the world in the development of modern architecture. It has to do with the climate and the geography. Mountains with snow on them all year. Beaches. Deserts. A big city with a downtown and sprawling suburbs. Anything a movie location scout could want also attracted architects. And the same factors led to an indoor-outdoor informality that was very much in sync with the larger modern movement.

What distinguishes modern architecture from what preceded and from what followed it?

One of modern architecture's main features is that it's not imitative. Even though modern architects drew inspiration from previous work, they were not copying other architectural forms. Modernism emphasized functional design for both individuals and families, employing and celebrating the most technologically-appropriate materials available at the time.

How did you get interested in the history of architecture?

My father was a college administrator but his real love was history. Whatever writing talent I have, I got from him. My mother was the visual person. She took me hand-in-hand as a small child to building sites. Whenever a new building was going up anywhere, I was there with her and we would trespass on the building site and study the work in progress. It's nice when you can thank both of your parents for what they gave you.

Why does your book start in 1900?

I began in 1900 because what I'm calling Los Angeles modernism began then with Pasadena craftsman designers Charles and Henry Greene and the rational modernist Irving Gill, who had firms that were active in the century's first decades.

Why do you end in 1970s?

In some ways it's a symbolic date. It's the year Neutra died and the year after the death of Welton Becket, who designed the Capitol Records Building, the Santa Monica Civic Auditorium and the old UCLA Medical Center—among other modernist landmarks. It was also symbolic because Reyner Banham, the author of the influential book "Los Angeles: The Architecture of Four Ecologies" and one of LA's greatest champions, decided that 1970 was the year that modernism—as he put it—"ceased to have world-wide dominance." Also, it was just after the end of the Case Study program and the beginning of the post-modern critique of modernism.

What was the Case Study program and what was its significance?

It was a design program launched by an architecture magazine that ended up popularizing modern architecture in a residential setting. The idea was the brainchild of John Entenza, who bought an old journal called *California Arts and Architecture* in 1938 and changed the name to *Arts and Architecture*.

Entenza figured—rightly—that the post-World War II boom in construction would lead to a lot of less-than-distinguished design. In *Arts and Architecture*, he wanted to offer modern prototypes that returning GIs could aspire to. He asked key architects to come to him with clients, and with plans and ideas that the magazine could designate as case study houses, which he published. The program was one of the most important factors in popularizing residential modernism and in keeping Los Angeles on the map as center of modernism.

What was your goal with *Architecture of the Sun*?

I wanted to trace the genealogy of modern architecture in Southern California. Of course, the father of them all—to use the genealogical metaphor—is Frank Lloyd Wright. The Greene brothers did not work with him. They were contemporaries. But they knew and were influenced by him. Irving Gill worked with Wright in the Chicago office of Louis Sullivan, considered one of the fathers of modernism, before Gill came to San Diego and Los Angeles.

Frank Lloyd Wright's son, Lloyd Wright, worked in his father's studio—as did Rudolf Schindler and Neutra. John

Lautner was the last of the architects from Wright's studio who came here. The disciples of Schindler and Neutra were Gregory Ain, whose modernist residences you see in Mar Vista, and Raphael Soriano and Harwell Hamilton Harris, who also designed modernist homes. You can't make a direct link to Frank Lloyd Wright with the influential Southern California modernists Ray and Charles Eames, Wilton Becket or William Pereira, but just about everybody else you can.

Your book analyzes hundreds of modern masterpieces. Of these treasures, how many have been demolished?

I'd say one fourth—at least.

If you could revive just one of the demolished treasures, which one would it be?

There are several—not just one—and their losses are all equally regrettable. But Neutra's von Sternberg House in Northridge would be one of them (see photo on page 22). It was one of his greatest buildings and one of the most important buildings in the history of modernism, and it had a rich cultural history.

Later, it was purchased by novelist Ayn Rand. After she left, it was knocked down in one weekend in 1971.


Equally deserving would be Irving Gill's Dodge House. Located in West Hollywood, it was Gill's greatest work and one of the iconic buildings in the history of modern architecture.

Thomas S. Hines



"LOS ANGELES MODERNIST ARCHITECTURE, LIKE ALL GREAT ARCHITECTURE, HAS PROVIDED A SHELTER FROM THE WOES OF THE WORLD AND A STAGE FOR CONFRONTING AND ENJOYING LIFE."

Is there something about the people who gravitated here that made them more predisposed to experimental architecture?

Of course, many different kinds of people gravitated here—that why we have Hansel and Gretel cottages as well as Spanish colonial revival fantasies. So you can generalize only to a point. But there was an openness in Southern California. Maybe just the act of coming here, being reminded that things were different here, that you could take off more of your clothes, or all of your clothes—actually, metaphorically and architecturally—emboldened potential clients. Whatever the explanation, this receptivity to architectural experimentation is one of Los Angeles' greatest cultural achievements. 

The AAP Learning Tutorials bring students together with fellow student facilitators in sessions that provide powerful support—both academic and personal.

PEERS

Who Make All the Difference

By Dan Gordon



Tiffany Blade knows she wouldn't have passed Statistics 10, a prerequisite for her major in psychology, without the assistance she received from one of her fellow students in the university's Peer Learning Program.

The professor's explanation of the course material worked well for some but not for Blade, who had just transferred to UCLA for her junior year. She met with her professor and still made no headway. But through the Peer Learning Program, Blade attended weekly small-group sessions conducted by a fellow student who had previously excelled in the same class, and was specially trained to assist Blade and other students like her in mastering the subject matter.

It made all the difference.

"He just went step-by-step explaining the concepts from a different perspective, and if I didn't understand a formula, he would patiently break it down for me," said Blade. "He told me that when midterms and finals came around, I was going to do well. He trusted me, even when I might not have trusted myself. It was such a relief to know I could do this."

Each quarter, Peer Learning, administered by the Academic Advancement Program (AAP) is available at no charge to the more than 6,000 UCLA undergraduates served by AAP—students from diverse populations that are historically underserved by higher education, including first-generation undergraduates, college students from low-income families, and those from underrepresented populations. Students commit at the beginning of each quarter to attend all sessions.

At the sessions, which are held either once or twice a week in AAP's labs in Campbell Hall, small groups—typically 3-5 students, with one-on-ones for students in composition courses—engage in discussions designed to enhance what the students have learned in class. The groups are led by paid tutors, called Peer Learning Facilitators, most of whom are successful upper-division AAP students.

In addition to their subject-specific expertise, Peer Learning Facilitators are trained to challenge and support students academically and to serve as role models, talking with students about their academic and personal lives.

Although students such as Blade who are struggling in a course are sure to benefit from the workshops, AAP's Peer Learning is most concerned not with remediation but with fostering excellence.

"It's a problem-posing and question-based approach," said Donald Wasson, the AAP associate director who oversees the program. "And out of that discussion, students not only build their understanding, but also begin to make the knowledge their own and ask their own questions about the material. This leads to lively dialogues and new perspectives, and deepens their commitment to their academics."





“Students not only build their understanding, but also begin to make the knowledge their own, which leads to lively dialogues and new perspectives, and deepens their commitment to their academics.”

For Alexandra De La Torre, the sessions have done just that. A sophomore currently undeclared in the College’s Division of Life Sciences, De La Torre said the intimate group settings of the AAP Peer Learning program provide a welcome contrast to the lecture hall setting of her basic courses.

“The Peer Learning Facilitators are very helpful and always available—you can just email them if you ever have a question,” she said. “Also, you tend to know many of the people who are in AAP. We’re a tight-knit community, and that makes it very comfortable.”

Vanessa Rangel spent much of her first two years benefiting from the Peer Learning services. By the end of her sophomore year, she was hired as a Peer Learning Facilitator; now, in her junior year, Rangel is a facilitator herself—helping students in the same math courses she took as a freshman and sophomore—and is a supervisor for the program’s math Peer Learning Facilitators.

“Study habits change so much from high school to college, and it can be quite challenging,” said Rangel. “This program provides a supportive, nurturing environment that many other universities don’t offer to students. The tutors are all here because they have that passion to teach students and help them succeed. We’ve been there, and we know what they’re experiencing.”

Wasson believes the value of AAP students learning from their AAP peers can’t be overstated.

“For first-generation college students, UCLA starts as a big unknown, and it’s easy to wonder if you belong,” he said. “Having peers who are like you and who have succeeded—in part thanks to this program—sends a clear message that yes, of course you belong and you can succeed.”

Wasson notes that beyond providing academic assistance, Peer Learning Facilitators are often asked to intervene in non-academic spheres: in feelings of alienation, anxiety about family expectations, and financial pressures, to name a few.

For all of the success of Peer Learning, AAP administrators see even greater possibilities for the program that would come with the construction of a sophisticated new facility approved to be built adjacent to Campbell Hall (*see illustrations*).

“The current space is cramped and doesn’t foster the type of environment that maximizes learning,” said Charles J. Alexander, associate vice provost for student diversity and AAP director. “The new Learning Center will go far in accommo-

dating different-sized groups and enabling the program to utilize new technologies to enhance learning.”

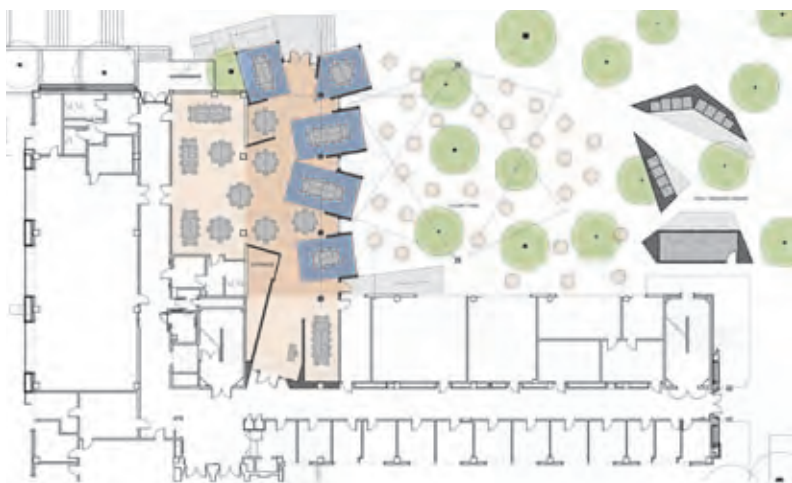
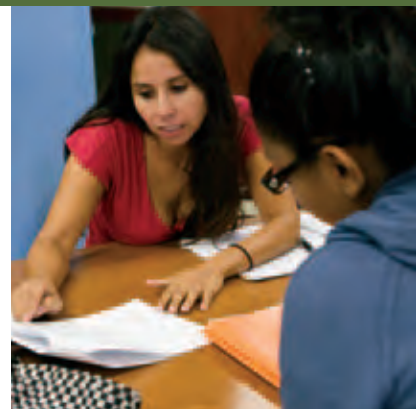
AAP is now beginning to raise funds for the new Learning Center, with a goal of opening by 2012.

To Geraldo Vindiola, the Peer Learning program provided an opportunity for payback. A first-generation college student who spent several years working fulltime before returning to school, Vindiola started at a community college and would have gone no further if he had not received encouragement from counselors who believed in him. He transferred to UCLA to complete his undergraduate education, stayed for a master’s degree in Latin American studies, and is now pursuing his Ph.D. in history.

In the process, he also became an AAP Peer Learning Facilitator—work he continued for four years.

Vindiola has concluded that the students he assists aren’t the only ones benefiting from the experience.

“I learn as much from them as they do from me,” he said. “In social science, there isn’t just one way of looking at the issues and concepts we deal with. When I hear other students’ experiences and their view of the world, I am enriched.”



Students in the Peer Learning Tutorials offered by the Academic Advancement Program would benefit from a new center built next to Campbell Hall (above and far left).

Research in the lab of mathematician Andrea Bertozzi on the behavior of sand and oil is casting new light on the impact of oil-related disasters, and how they affect the shoreline they pollute.



Modeling to Avert Disaster

By Cynthia Lee

For five years Professor Andrea Bertozzi, director of UCLA's applied mathematics program, has been working with her students and postdoctoral researchers on experiments in a Math Sciences lab to understand the physics of what happens when sand and oil mix together and flow down a slope.

While the experiments are simple enough for beginning researchers to do, the challenge of developing a mathematical model to predict how this sludgy mixture will behave, based on the size of the grain of sand, the viscosity of the oil, and the angle of the slope, makes the problem a lot more complex and intriguing to young scientists.

With modest funding over the years from the Office of Naval Research, the National Science Foundation, and the UC Lab Fees Research Program, the experiments gave undergraduates a chance to dive into basic science research. Bertozzi's applied math lab is the first at UCLA to give students an opportunity to do hands-on experiments that are primarily

driven by mathematics. The papers it produced addressed some basic science questions of relevance to the food industry, coal recovery, and mudslides.

"I always felt that this project was something we did on the side," said Bertozzi.

Then something happened to give their research nationwide relevance: on April 20, the Deepwater Horizon oil rig blew up in the Gulf of Mexico.

When crude oil began to wash up on the beaches of Louisiana, Bertozzi immediately saw a connection between the theoretical work she and her students had been doing since 2005 and the tragic outcome of what has been called the worst environmental disaster in the history of the country.

"I thought we might start thinking about problems that were more directed at the oil spill," the mathematics professor said.

A call for "rapid response" proposals related to the Gulf of

Mexico oil spill by the National Science Foundation clinched it. Winning a year's worth of funding, Bertozzi and her students have now found themselves working at the leading edge of oil spill-related research.

"We're one of the few organizations funded in the wake of the oil spill that is doing basic research in the laboratory rather than field work," said Bertozzi. "One of the things we've tried to do with the lab is create a platform in which young students can get involved."

The lab's research addresses fundamental questions that relate to the monumental cleanup problem, ideally producing theories about the dynamics of oil and sand. For example, is there a critical angle of incline for beach sand dunes that would result in oil collecting in the dune itself instead of flowing to the bottom of the dune?

Scientists on the oil-contaminated beaches are finding not only globs of oil sitting on the sand, but layers of crude that have been deposited 6 to 10 inches beneath the sandy surface.

"Springboarding off our study, what we see happening depends on the angle of the incline, the viscosity of the oil and the amount of oil there in comparison to sand," Bertozzi said. "We might be able to predict how the oil is going to separate from the beach sand."

To duplicate the basic physical forces that are involved in this study of fluid dynamics and sedimentation, where particles suspended in a fluid exert forces on other particles in complex ways, Bertozzi and her group use non-toxic oil of various viscosities and glass beads (like sand, but engineered to be identical in size), to make sludge. They then examine how it behaves as it flows down an inclined trough. Does the sludge


stay well-mixed? Or does sand flow faster to the front edge to form a ridge?

In some cases, some of the oil separates to flow in "fingers" ahead of the sand. Using a laser to help them see the profile of the flow, they can create a 3-D computerized mathematical profile of the flow to help them in their analysis.

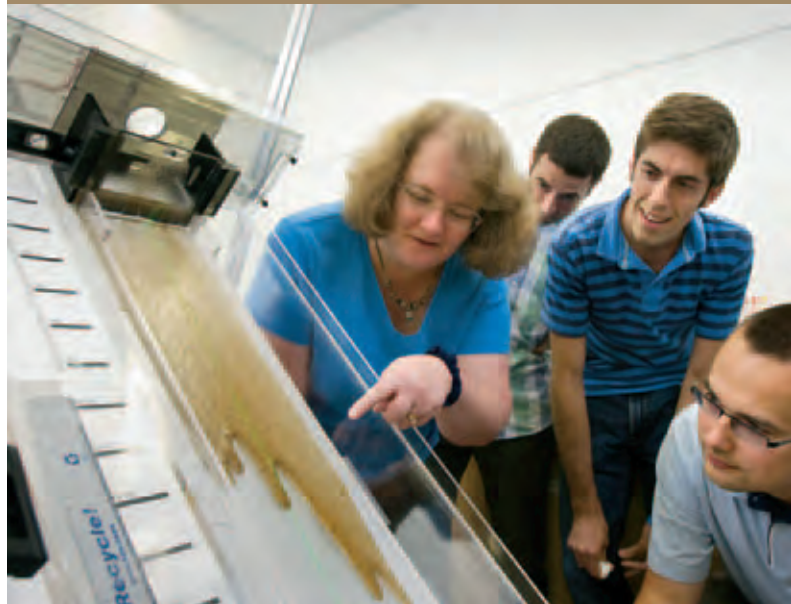
In a recent paper, Bertozzi's team successfully compared detailed experiments with a new theory for how sand separates from oil. As principal investigator of the study, Bertozzi is currently designing experiments that will directly focus on some of the issues related to the cleanup of beaches.

"We've met online with geologists doing fieldwork all over the gulf," said Bertozzi. "We're learning more about the problems as we do the research."

"There could be a lot more science to understand about basic physical problems in this type of disaster," she said. "For example, why does oil sometimes wind up in tar balls on the beach and sometimes percolate down under the sand?"

"And, if we know oil is coming ashore, there may be ways to prep the beach ahead of time." 

Andrea Bertozzi and her students study the flow of non-toxic liquids combined with glass beads to simulate the dynamics of the movement of oil that has saturated beach sand.



"We're one of the few organizations funded in the wake of the oil spill that is doing basic research in the laboratory rather than field work. One of the things we've tried to do with the lab is create a platform in which young students can get involved."

A Helping Hand in Career Growth



Each year, alumni from the business community return to UCLA to interview students for the Sharpe Fellows Program, which also provides high-impact feedback for internships and career planning.

“This is probably the most personally gratifying thing we do as UCLA alumni, connecting with individual students and helping them navigate one of life’s most important steps.”



Every November, prominent UCLA alumni come back to campus to grill—not seafood or steak, but third-year economics students.

Alumni who are business professionals spend a day interviewing undergraduates for the prestigious Sharpe Fellows Program, which provides top firms with a select group of outstanding UCLA applicants for summer internships.

Started in 2007, the program was named for three-time UCLA economics alumnus and Nobel Prize winner William F. Sharpe BA '55 MA '56 PhD '61.

“I am delighted and somewhat humbled to have my name associated with a wonderful program that recognizes students’ considerable accomplishments while giving them opportunities to apply what they learn in the classroom to the real world,” said Sharpe, who was awarded the Nobel Prize in 1990 for his capital asset pricing model.

On interview day, the alumni volunteers don’t pull any punches as they give applicants honest feedback and tips on interview techniques. Once chosen, Sharpe Fellows are then thoroughly coached by career center staff to help them prepare for the competitive internship recruiting process.

Alumni interviewer Michael E. Flynn '80, audit partner in KPMG LLP’s banking and finance practice, described the interview day as “a great opportunity for students to experience real life interviews with senior executives.”

UCLA Economics Board of Visitors Chair, Kevin Albert '74, partner and head of corporate development at private equity firm Pantheon, said the experience is invaluable for both students and alumni.

“This is probably the most personally gratifying thing we do as UCLA alumni, connecting with individual students and helping them navigate one of life’s most important steps,” Albert said. “It is shockingly easy for seasoned business people to help students become more effective in interviews after spending less than an hour observing their performance and providing a little coaching.”

Mayank Bhandari, a 2010 Sharpe Fellow who spent the summer at Deutsche Bank in Los Angeles, said, “I was told I was coming across as too academic in the interviews, so I made some adjustments. I couldn’t have gotten that feed-

back any other way.” Sharpe Fellow Mark Lam agreed, adding, “I had a phenomenal alumni interview experience, with a panel of three senior professionals telling me what it takes to interview successfully in finance.” Lam listened, learned, and promptly landed a prized internship with New York-based asset management firm BlackRock.

Beyond honest advice, the students gained a new appreciation for alumni connections. Sharpe Fellow Lauren Lucido noted, “It was great to get this exposure and to know that the alumni all wanted us to do well.” Lucido spent the summer with Deloitte’s Human Capital department as part of a team helping to integrate a client’s human resources systems following a merger.

Thanks to the Sharpe Fellows Program, these seniors no longer have to worry about pounding the pavement with résumés in hand after graduation. They, along with a number of other Sharpe Fellows, have accepted full-time job offers from the firms where they interned over the summer.

UCLA Career Specialist Katrina Davy said that alumni and recruiters have identified the Sharpe Fellows program as the edge UCLA students need in order to enter selective industries like investment banking and consulting.

“However, we’d like to expand this premier internship program so that students can apply business skills to other industries,” said Davy.

The program has doubled since its inception three years ago, with 18 Sharpe Fellows named in 2009–2010. And 20 alumni professionals participated in interview day last November, among them Brian Keegan ’81, managing director of JP Morgan Securities.

“I was thrilled to be back on campus with the goal of finding exceptional talent to lead JP Morgan in years to come,” said Keegan, “and I was impressed with the number of articulate, academically strong, and well-prepared students I met.”

Far left: alumni Kevin Albert, Russell Kincaid and David Griffin interview a candidate for the Sharpe Fellows Program, named for UCLA alumnus and Nobel Laureate William Sharpe (top left). Below: 2010 Sharpe Fellows Mark Lam, Mayank Bhandari, and Lauren Lucido.



Board of Visitors member Nicholas Saggese BA ’69, MBA ’73, co-head of the private equity practice at Skadden, Arps, Slate, Meagher & Flom, has been involved in the Sharpe Fellows Program from the start. He said the most challenging part of the process comes at the end of interview day.

“Having to choose Sharpe Fellows from such an amazing group of students is tough, but it’s a good problem to have,” Saggese said, “and hopefully all of the candidates take away a rewarding learning experience.”

Andrew Atkeson, Stanley M. Zimmerman Professor of Economics and Finance, who helped spearhead the Sharpe Fellows program in 2007, said the program demonstrates what is possible at a university when alumni get involved. Board of Visitors member Robert Ettinger ’80, president of investment firm Flaherty and Crumrine, agreed, saying, “This program works because it inspires students and strengthens ties among alumni, the business community, and the university.”

Kevin Albert said the Board of Visitors wants to increase the program’s impact. “Right now we only have enough capacity to interview about 30 students a year,” Albert said. “It is critical that we get more alumni volunteers to help ramp up that capacity.”

Albert can count on previous Sharpe Fellow Brandon Watkins ’10, who interned with Goldman Sachs and is now three months into his full-time analyst position at the firm.

“I think one of the main jobs of alumni is to educate students about how the various industries work and provide a network of contacts,” said Watkins. “I certainly plan to stay involved in any way I can be useful.”

Everyone involved with growing the Sharpe Fellows program—including Bill Sharpe himself—will be very happy to hear that.

For information on becoming a Sharpe Fellow alumni volunteer, please contact Katrina Davy at (310) 206-1931 or kdavy@career.ucla.edu.

Riches-to-Rags-to-Riches: The Story of Ludwig and Sady Kahn

A \$2 million gift from the Sady Kahn Trust will provide a broad range of support for the Center for Jewish Studies.

“The Center for Jewish Studies seemed like a perfect fit with Sady’s values and interests.”



Ludwig and Sady Kahn

It’s 1937. A young couple stood on the deck of a ship sailing into New York Harbor, having abandoned their comfortable lives in Germany to escape Hitler’s Nazi regime. Sady and Ludwig Kahn wept with relief as the Statue of Liberty came into view, and wondered what their future held.

The Kahns’ experience of arriving at Ellis Island, with little money and few possessions, mirrors the story of many other German-Jewish refugees from that period. What makes the Kahns’ story extraordinary is that they went on to live the riches-to-rags-to-riches tale of the American dream. In honor of their memory, the Sady Kahn Trust recently endowed the Sady and Ludwig Kahn Directorship of the UCLA Center for Jewish Studies with a gift of \$2 million.

Pending Academic Senate approval, the Kahn Directorship will provide vital discretionary funds for the Director’s research and for Center operations. It will also benefit graduate students in the form of a Kahn Fellow award, and support an annual Kahn Lecture in the field of European Jewish history, literature, or thought.

Sady Kahn came from a well-to-do German Jewish family from Nuremberg. Her initial experience in the United States was quite a shock. Long-time family friend Susan Lorenzana recalled how, having made their way by train from New York to Los Angeles, the couple first lived with relatives in cramped conditions. Ludwig found a job in the garment district that paid \$13 a week. Meanwhile back in Germany, Sady’s childhood home in a wealthy Nuremberg neighborhood was commandeered by Nazis, and her parents narrowly avoided capture.

“When Sady learned her parents had escaped to Paris on one of the last trains out of Germany, it was one of the happiest days of her life,” Lorenzana said.

Ludwig eventually saved \$100—just enough to start a millinery business in the days when women’s pillbox hats were *de rigueur* fashion accessories. According to Jim Keir, family friend and attorney-trustee of the Sady Kahn Trust, each morning Sady would take the bus downtown to Bullocks Wilshire to pick up unadorned hats, bring them home to laboriously sew sequins, pearls, and feathers into the netting, and then return the hats to the store the following day. The couple struggled at first, but together they persevered to build their business into a successful enterprise, investing wisely along the way.

Sady and Ludwig spent many comfortable, happy years in their Beverly Hills duplex. After Ludwig’s death in 1999, Jim Keir met with Sady to set up The Sady Kahn Trust and designate beneficiary charities, as the Kahns had no children. When UCLA was mentioned as a possible recipient, Keir said Sady immediately liked the idea that academic programs and students at UCLA would benefit from the trust. She passed away in 2009.

Keir has started to distribute the Trust assets, noting, “The Center for Jewish Studies seemed like a perfect fit with Sady’s values and interests.”

Sady and Ludwig Kahn lived their story within the frame of the American dream, turning their hardships into triumphs. Now they have left an enduring legacy at UCLA that will help secure the future excellence of one of the nation’s finest, most active centers for Jewish studies.

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

Honors for a Structural Biology Pioneer

David Eisenberg has been named the first recipient of an endowed chair named in honor of his mentor and friend, Nobel Laureate Paul D. Boyer.

Preventing diseases like Alzheimer's and Parkinson's may be within our grasp some day thanks to David Eisenberg and his team of 20 researchers who study lab-grown protein crystals no bigger than specks of dust.

Eisenberg was awarded the newly created Paul D. Boyer Endowed Professorship in Molecular Biology and Biochemistry, at an event attended by the family and widow of Dr. James Peter, who endowed the professorship in honor of his friend, mentor, and the 1997 Nobel Laureate for chemistry.

Eisenberg's research focuses on understanding the structure and function of protein molecules, and the disease-related fibers formed by some of those molecules. By growing tiny protein crystals, then zapping them with a highly specialized x-ray beam in order to measure reflections of varying intensity, his research team has so far identified 60 protein structures with links to about 10 diseases.

"Our core technology is structural biology," explained Eisenberg, professor of both biological chemistry and chemistry and biochemistry, and director of the UCLA-DOE Institute of Genomics and Proteomics. "First we determine the arrangement of atoms in proteins and other fundamental biological molecules, then we can understand their function."

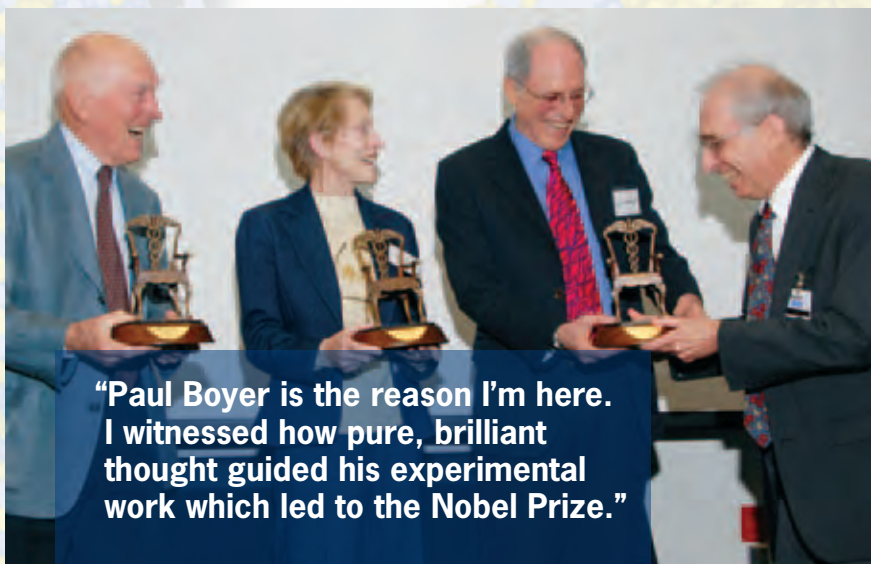
The big "Eureka moment" came in 2005 when Eisenberg and the team identified the first of these atomic structures of disease-associated fibers, after overcoming a significant technical challenge.

Initially, the crystals grown in the lab were too small—only a millionth of a meter thick—for the current x-ray technology. Undaunted, Eisenberg and his team traveled to France to track down a newly developed micro-x-ray beam small enough to handle the tiny, fiber-containing crystals. Advances in technology have also enabled a huge increase in the numbers of crystals grown, so that last year the UCLA Crystallization Facility, shared by about a dozen UCLA research groups, set up 1.2 million crystallization experiments.

Far from the world of labs and crystallography, Eisenberg grew up wanting to be a doctor like his pediatrician father. But after earning a bachelor's degree in biochemical science from Harvard, he went to Oxford University to study theoretical chemistry—and was hooked. Because of his interest in medicine, he resolved from the outset to study biochemical problems related to disease.

Now after decades of research and fruitful collaborations, Eisenberg is closing in on his ultimate goal of translating research into drugs that will prevent the growth of disease-causing fibers—thus preventing or delaying the onset of disease.

While Eisenberg was still a student at Oxford in 1963, James Peter followed his doctoral advisor, Paul Boyer, from Minnesota to UCLA. After several years on UCLA's medical



"Paul Boyer is the reason I'm here. I witnessed how pure, brilliant thought guided his experimental work which led to the Nobel Prize."

From left: Paul Boyer, Joan Peter, David Eisenberg, and Gerald Levey (dean emeritus of the David Geffen School of Medicine) at the ceremony to present the first Paul D. Boyer Endowed Professorship to Eisenberg.

faculty, Peter left to start Specialty Laboratories in 1975, which developed original tests for diseases like leukemia and HIV/AIDS. But his ties to the university remained strong. In addition to serving for many years on the College of Letters and Science Advisory Board, he and Boyer created the Boyer-Peter Post-Doctoral Recognition Award in 1997.

Peter credited much of his success to Boyer's influence, so in ultimate tribute to his mentor, he and his wife, Joan, established the Paul D. Boyer Endowed Professorship in Molecular Biology and Biochemistry in 2008 to advance the teaching and research activities of a world-class faculty member in the Division of Life Sciences.

It is fitting that David Eisenberg is the first holder of the Paul D. Boyer Endowed Professorship, as Boyer is the one who persuaded Eisenberg to come to UCLA in 1968.

"Paul Boyer is the reason I'm here and the reason I've stayed," Eisenberg said of his mentor. "I witnessed how pure, brilliant thought guided his experimental work which eventually led to the Nobel Prize."

Eisenberg is very clear about the benefits of the endowed chair.

"The funding that comes with the chair is a huge boost to this research, because it enables me to bring talented post-docs and grad students to the lab, and helps pay for equipment and supplies," he explained. "But more than this, I am thrilled to have my name associated with two such amazing scientists and wonderful human beings as Paul Boyer and Jim Peter."

Liberty and Slavery

What we venerate as the Liberty Bell is actually a replica. After the original bell, which had been sent from London, cracked when tested, two Philadelphia artisans melted it down and recast it in 1753, then recast it again to get better sound from it. And if Philadelphia's founding fathers had had their way, the now treasured relic would have been melted down a third time seven decades later and sold for scrap metal.

"It's pretty much a miracle that the Liberty Bell still exists," said Gary Nash, professor emeritus of history, founder of the UCLA-based National Center for History in the Schools, and author of a new book about the life and times of America's beloved bronze icon.

In *The Liberty Bell*, Nash traces the bell's history from its pre-Revolutionary role as a convener of colonial legislators to its front-row seat in a modern-day controversy over the echoes of slavery on the grounds where the symbol of freedom now stands.

Along the way, Nash—the author of 26 books on the American Revolution, Philadelphia, and the role of race and class in the fledgling nation—details the bell's slow and arduous rise from scrap metal fodder to international renown. Nash shows how the bell gained its name and much of its mystique as a symbol for a series of progressive causes, beginning with abolition and ending with self-determination for former Soviet bloc countries and colonies in Africa.


A previous president of the Organization of American Historians, Nash served as a member of the National Park Service's Second Century Commission, a panel convened in 2008 to reevaluate the agency's guiding principles. He emerged as a vocal critic of Independence National Historical Park's original plans to omit the history of slavery at the site where the Liberty Bell Center was erected in 2003.

The controversy involved the nation's first executive residence, which stood on the park site before the nation's capital moved to Washington, D.C. in 1800. Two of George Washington's slaves escaped from the house before the end of his presidency: Oney Judge, Martha Washington's personal slave, and Hercules, the household's chef.

The omission is corrected in an open-air exhibition at the park, "Freedom and Slavery in the Making of the New Nation," for which Nash is serving as a historical consultant.

Open in December 2010, "Freedom and Slavery" outlines the physical footprint of the long-demolished executive residence with five-foot high brick walls (*see illustration*). Large glass panels incised by artists will portray particularly moving moments from the house's history, including Judge's flight to freedom. Nash wrote the captions for the panels as well as the text delivered from six audio stations throughout the exhibit.

"The presence of slaves at the heart of one of our nation's most potent symbols of freedom is an opportunity to give us a more complete view of American history," Nash said. "The bell is a symbol of an ongoing struggle for liberty rather than one of liberty attained."



UCLA historian Gary Nash explores the legacy of the Liberty Bell in a new book, and also plays a key role in the current-day dispute about the history of slavery on the site where the nation's beloved bronze icon is enshrined.

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The AAP Peer Learning Program and its student facilitators provide powerful academic and personal support for the more than 6,000 students served by the Academic Advancement Program. The program would get a formidable boost from the construction of a sophisticated new learning facility, approved to be built adjacent to Campbell Hall.