Engaged university: Cal gathers to watch history

Washington calls on Berkeley’s experts

Toward a brighter future: new ideas and innovations
Cover: Sproul Plaza buzzed with anticipation on the morning of January 20 as the inauguration of President Barack Obama was broadcast on the Mario Savio Steps of Sproul Hall. The throng of students, faculty, staff, and community members estimated at 10,000 was one of the largest ever gathered at the site. Loud cheers erupted as the new president said, “We will restore science to its rightful place, and wield technology’s wonders...And we will transform our schools and colleges and universities to meet the demands of a new age.”

View a short video of the event at promise.berkeley.edu/inauguration.

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Lauding UC Berkeley for educating and empowering bright minds to serve the nation, in 1962 President John F. Kennedy said: “I am talking to the future leaders of this state and country who recognize their responsibilities to the public interest ... the New Frontier owes as much to Berkeley as it does to Harvard University.” Kennedy’s words to a packed Memorial Stadium were brought to life again as President Barack Obama tapped Berkeley’s best for prominent positions in his administration.

Physicist Steven Chu Ph.D. ’76 and economist Christina Romer have been selected from Berkeley’s faculty to help chart the nation’s course, shaping policy in energy and economics. Along with more than a dozen colleagues who have advised Obama — including Laura D’Andrea Tyson, appointed to the new Economic Recovery Advisory Board — they reflect a long tradition of Berkeley faculty “serving our nation at the highest levels,” said Chancellor Robert J. Birgeneau.
turns to experts

Steven Chu Ph.D. ’76  
Secretary of Energy  
Expertise: Energy efficiency, renewable energy, climate change, energy security.

Christina Romer  
Chair, Council of Economic Advisors  
Expertise: Monetary and fiscal policy, the Great Depression, 20th-century macroeconomics.

The first Nobel laureate to be appointed to a Cabinet position, Steven Chu "has been working at the cutting edge of our nation’s efforts to develop new and cleaner forms of energy," Obama said about his choice for secretary of energy. "He blazed new trails as a scientist, teacher, and administrator."

Chu, 60, outlined his vision for the role of the U.S. Department of Energy: "To support energy research and development that will lead to innovation in the private sector, to nurture broad-based scientific research that is essential for our future prosperity, and to provide scientific leadership to minimize the proliferation and use of nuclear weapons," he said. "What the world does in the coming decade will have enormous consequences that will last for centuries."

A fellow physicist and colleague of Chu’s for three decades, Chancellor Birgeneau said, "We regard him as our Berkeley messiah for clean alternative energy research. Now, he can be the messiah for the whole country."

Director of the Lawrence Berkeley National Laboratory (LBNL) and
Philomathia Chair in Alternative Energy at Berkeley, Chu is a tireless champion of research to mitigate global warming who has used his prominence to campaign for alternative energy sources and greater energy efficiency. During a lecture in Washington last June, he opined that new houses could be made energy efficient with an investment of $1,000, “but the American consumer would rather have a granite countertop.”

Chu calls himself the academic “black sheep” in a family of accomplished scholars because he’s the only one with just one advanced degree — a Ph.D. in physics from Berkeley in 1976. Working at AT&T Bell Laboratories, he conducted research that led to his shared 1997 Nobel Prize in Physics for developing methods of using laser light to create “optical molasses” that supercools and traps atoms. Chu was a professor at Stanford University from 1987 until 2004, when he accepted the directorship of LBNL.

With Chu at the helm, LBNL has partnered with Berkeley on leading energy research, including a 10-year, $500 million grant from BP to establish the Energy Biosciences Institute (EBI), aimed at developing new biofuels. Chu also spearheaded the Helios project to tap sunlight for renewable energy, and leveraged lab expertise to attract the Department of Energy’s Joint Bioenergy Institute to make cellulosic biomass a viable source for advanced transportation fuels.

“LBNL has been transformed under his leadership,” said Berkeley Lab Interim Director Paul Alivisatos. “Today we have new programs that bring together scientists from diverse disciplines to work on biofuels, soft X-ray science, solar energy, carbon management, battery technologies, dark matter; and dark energy; to mention just a few.”
Christina Romer, Chair
Council of Economic Advisors

In the midst of a housing market meltdown, industry bailouts, and the highest job losses in nearly two decades, President Obama selected Berkeley’s Christina Romer as chair of the Council of Economic Advisors (CEA), praising her as “one of the foremost experts on economic crises — and how to solve them.”

Romer will head up the three-member CEA, a policy think tank within the White House that produces an annual economic report for Congress. A leading authority on the Great Depression, Romer, 50, has done “groundbreaking research on many of the topics our administration will confront — from tax policy to fighting recessions,” Obama said in announcing her nomination. “Her clear-eyed, independent analyses have received praise from both conservative and liberal thinkers alike.”

Said Chancellor Birgeneau, “There is no more important issue today than the economy and no one more prepared to help the Obama administration move the country forward than Professor Romer.”

Maurice Obstfeld, a Berkeley economics professor and an expert on monetary and international economics, echoed the sentiment. “Given the economic challenges we are facing, the country needs a top macroeconomist heading the Council of Economic Advisors,” he said.

Romer is the Class of 1957 Professor of Economics and has taught at Berkeley since 1988. She has been a member of the National Bureau of Economic Research since 1986 and served on a committee charged with officially determining when a recession has started and stopped.

The recipient of a 1994 Berkeley Distinguished Teaching Award and an American Academy of Arts and Sciences fellow, Romer has written extensively...
about monetary and fiscal policy, the causes of and sources of recovery from the Great Depression, and macroeconomic fluctuations over the 20th century.

Romer’s husband, David Romer, also is a Berkeley economics professor specializing in monetary policy, and the two have long collaborated on papers and research. The results of one joint project — looking at the ways that tax cuts affect both the economy and the government budget — surprised both of them. While tax cuts provide a powerful short-run stimulus to the economy, the pair found little evidence that cuts restrain government spending.

“It turns out that tax cuts have led, eventually, to tax increases,” said Christina Romer. “Basically, something has to give. What we thought gave when you cut taxes was spending, but we seem to find that in postwar U.S. history what actually gives is the tax cut itself.”

As consultants to Obama during the campaign and transition to Washington, Christina and David encountered what they referred to as the president’s quest for intellectual rigor. Early on, they were asked to help craft talking points for a speech about the economy. Their first draft was sent back — with a request for more research and better documentation.

“Of course we sent back more material,” recalled David Romer. “With footnotes.”
Milestone reached for endowed chairs

With the recent addition of The William and Janet Cronk Chair, in just one-and-a-half years the campus is already halfway toward reaching a landmark goal of creating 100 new faculty chairs. In 2007, the Hewlett Foundation made a historic $113-million gift to provide matching funds for endowment gifts to help recruit and retain top faculty.

hewletttchallenge.berkeley.edu

Earthquake warning system

Seismologist Richard Allen has discovered a way to provide seconds to tens of seconds of advance warning about impending earthquakes, predicting the total magnitude of the quake and its destructive potential. A few seconds is enough time for schoolchildren to dive under desks, utilities to isolate systems, airports to halt flights, and emergency providers to pinpoint probable hotspots, saving lives and money.

promise.berkeley.edu/earthquake

Tedford signs contract

Golden Bear football coach Jeff Tedford has agreed to a two-year contract extension, keeping him at Berkeley through the 2015 season. Tedford has guided the team to a 59-30 record over the past seven years and through six consecutive bowl appearances. Financial support for the contract is being provided by the Athletic Department’s self-generated revenue.

promise.berkeley.edu/tedford

UC Regents respond to state budget challenges

The UC Board of Regents in January approved plans curtailing undergraduate enrollment growth, freezing salaries of top administrators, and restricting compensation for many senior leaders. The plans are part of UC’s efforts to cope with insufficient state funding for enrollment growth and continuing budget cuts. To keep abreast of budget news, visit: universityofcalifornia.edu/news/budget/

Chancellor unveils vision for Berkeley

Chancellor Robert J. Birgeneau outlined his vision for the University in a document entitled “Access and Excellence,” describing “how we must move forward to ensure that we sustain Berkeley’s academic preeminence and continue to serve our public mission for the state of California.”

newscenter.berkeley.edu/chancellor/access/

Heroic pilot, visiting scholar

Pilot Chesley B. “Sully” Sullenberger III has been a visiting scholar of the University’s Collaborative for Catastrophic Risk Management for two years. Sully, who guided US Airways flight 1549 to a safe landing in New York’s Hudson River last month after a collision with a flock of birds, is credited with saving the lives of all 150 passengers.

The Campaign for Berkeley

July 1, 2005 – June 30, 2013

$3 Billion

$1.43 Billion

As of January 31, the campus raised $1.43 billion toward the $3 billion campaign goal with 38% endowment and 62% non-endowment funding. (Campaign update on page 25.)
Shaping Cal’s financial future

The Promise of Berkeley recently spoke with Nathan Brostrom, vice chancellor of administration. Drawing on his experience in investment banking, he has begun modernizing the way the University manages its financial portfolio in just three years.

What is UC Berkeley doing to weather this economic storm?

The downturn affects nearly every source of funding Berkeley has. In the near term, we must increase revenue and cut costs to address the shortfall in state funding. Over the longer term, we’re looking at restructuring administrative services — from information technology to human resources — to direct more resources in support of teaching and research. Berkeley has been here for more than 140 years — even through the Great Depression and two world wars. We’re building a financial model that will sustain it for another 140 years.

We don’t want to take actions today that would erode the campus’s long-term excellence.
Berkeley has been here for more than 140 years . . . We’re building a financial model that will sustain it for another 140 years.

How can the University mitigate the effects of market volatility?

We are diversifying our revenue sources to make the University less dependent upon state funding, and we are taking a more sophisticated approach to balance sheet management.

Historically, we’ve been a state-supported institution, but in these days of reduced state support, we need to become more of a hybrid, where our balance sheet plays a larger role in our financial model. Many of our efforts to manage debt and financial assets — such as ending expensive real estate leases and buying the property instead — are helping lower operating costs and build equity. In spite of our budget crisis, we have over $600 million in fairly liquid reserves. The University has no need for such high liquidity; by investing these reserves differently we can bring in an additional $6 or $8 million annually to meet budgetary challenges.

Philanthropy is also becoming more integrated into how we manage our operating funds. For example, we used to only be able to pay faculty salaries with state funds. Now we are using part of the payout from endowed chairs for faculty salary, which frees up funding for teaching and research.

What campus priorities need to be preserved?

We must maintain the quality and breadth of the undergraduate curriculum, particularly for undergraduate lower-division courses. What truly distinguishes UC Berkeley as an academic institution is our comprehensive excellence — the fact that we are so good across so many disciplines. So we will not be looking at cutting academic departments or slashing educational programs to meet near-term budget cuts.

As the manager of Berkeley’s $1.8 billion budget, what’s keeping you awake at night?

I’m most worried that we do not know the length and severity of this downturn. Lots of data suggests that this recession could be longer and more severe than recent downturns. While we have a good two-year plan, if this stretches on, it will put a tremendous strain on the campus.

Why are universities trying to grow their endowments even during these tough economic times?

Endowments offer a buffer against the volatility of state funding, federal research funds, and other income. Given the smoothing that’s built into the endowment payout formula, the level of payout is relatively steady and growing over time, providing a long-term, sustainable financial model.

How will the Obama administration impact higher education?

This administration will be a friend to higher education, particularly to Berkeley, given our strengths. The Recovery and Reinvestment Act contains several areas of stimulus for capital projects, which we will quickly act upon. There is also a real commitment to increase spending in areas in which we excel, such as energy efficiency and alternative fuels. The act also contains increases in grants for low-income students and higher loan amounts, which will greatly help Berkeley’s students since so many come from low- and middle-income families.
Thanks to Berkeley... a brighter future

Our country is facing complex challenges in every corner of society. While there are no simple answers, change is afoot. At Berkeley, our faculty and students are doing their part to see that new ideas and innovations in the economy, energy and environment, health and technology, and education and society help pave the path toward a brighter future.
“The housing market will not bottom until 2010. It is an excellent time to buy a home. A first-time homebuyer who has a substantial down payment, and will not stretch too far, can buy in the next year.”

— Ken Rosen, Chair of the Fisher Center for Real Estate and Urban Economics

A green light for energy efficiency in California

Professor David Roland-Holst investigated the state’s 35-year effort to be more energy efficient and found that greener policies have yielded something good for average Californians: more money in their pockets. “We’re taking money out of the carbon fuel supply chain and spending it on what we usually spend our money on — like haircuts and espresso drinks,” explains Roland-Holst, a professor in the Department of Agriculture and Natural Resources. “When you save the money on energy, you are making the planet greener and stimulating the economy for everyone’s benefit.” Roland-Holst’s study is the first economic assessment of California’s historic leadership in energy efficiency. His study also demonstrates how new legislation (such as AB 32, which cuts carbon emissions) will boost the economy further, even in hard times. “If Washington is serious about committing itself to the new economy,” says Roland-Holst, “they can learn a lot from Sacramento.”
An innovative job site by — and for — students

Move over; craigslist: a new web site started by three Berkeley undergraduates is connecting college students with challenging internships across the country. Launched in November, internshipIN (www.internshipIN.com) is the brainchild of interdisciplinary studies major Arielle Scott, who enlisted the aid of computer-science majors Jessica Mah and Andy Su to bring the site to life. Soon after launching, the site listed nearly 400 internships — from big corporations like Kmart and CBS Interactive to startups seeking bargain-rate help from students needing experience.

California saved $56 billion between 1972 and 2006 by making homes and appliances more energy efficient.

California uses 40 percent less energy per capita than any other state in the nation.

By implementing its Global Warming Solutions Act (AB 32), California will create 403,000 green jobs and Californians will save $48 billion by 2020.
What’s the Fed’s Role in this era?

“We were taught — and we believed — that fiscal policy wasn’t how you solve problems,” says Professor of Political Science Henry Brady, who says he is “stunned” to see the Federal Reserve’s recent moves.

For years monetary policy had helped control the economy through the Fed’s adjustment of interest rates. But with rates so low, “the Fed has almost no room to maneuver, and it is becoming involved in the fabric of the banking industry in ways unprecedented outside of the Great Depression and the bank failures of the ’80s,” Brady explains.

Brady — who pursued his Ph.D. in economics and political science at M.I.T. in the company of economic luminaries including Ben Bernanke, chairman of the Federal Reserve, and Paul Krugman, a Nobel Prize-winning economist — says many in Washington now agree that “the only thing that we have left that can make an impact is large-scale government spending,” as they strive to move past the polarized political and economic backdrop of the past two decades.

So, where are we headed with the new administration? Only time will tell. Says Brady, “If President Obama devises programs that make people say that the government made my life better, the roads better, and our economy more energy independent, then he could be a person like FDR who changes the way that people think about government.”

Brady will deliver a Discover Col lecture, “The Challenge of Change: What to Expect from the Obama White House,” in Redwood City this spring. Details on page 31.
UC Berkeley’s landmark $500 million biofuels research partnership with energy giant BP signed just over a year ago, was recently named a “Deal of Distinction” by the Licensing Executives Society, an organization of technology transfer professionals.

Receipt of this annual award honoring the “complex art” of technology licensing — which helps speed the flow of research from the laboratory to the marketplace — capped a year of progress for the Energy Biosciences Institute (EBI), a 10-year project research partnership between UC Berkeley, Lawrence Berkeley National Laboratory, the University of Illinois at Urbana-Champaign, and BP.

Today, 50 research groups of about 130 faculty members and 160 graduate students, postdocs, and undergraduates are exploring the application of biological processes and mechanisms to find clean, renewable energy sources and lessen the impact of fossil fuels on global warming.

“EBI’s initial year has been filled with a hopeful energy, tireless dedication of researchers and support staff, and productive first steps on our journey,” says EBI Director Chris Somerville.

- 287 new energy research ideas
- 290 energy researchers
- 50 research groups
- 320-acre “energy farm” in Illinois to test new crops
What if we all owned the air? Linguistics Professor George Lakoff argues that we already do — and has written extensively about the benefits of cap-and-dividend, a novel approach to curtailing air pollution suggested by environmentalist Peter Barnes.

The concept is simple: distributors of carbon-based fuels bid for “pollution permits” to sell their fuels, while the number of permits sold drops by 2 percent annually for 40 years. The money raised — initially about $1,000 per person, per year and rising annually, Barnes estimates — would be distributed to all American adults as a “dividend.”

Lakoff says the policy would dramatically lower carbon pollution — and change how we think about nature. “I study the mind and language, and how issues are framed in public discourse,” he says. “Cap-and-dividend communicates a vital idea — that we all own the air equally and that it’s more valuable clean than dirty.”
Raising the bar in conservation

Large-eyed lemurs. A gecko that screams if disturbed. Trees that look like they were planted upside down.

These extraordinary species are among Earth’s most threatened, and Claire Kremen, assistant professor in the College of Natural Resources and a MacArthur Fellow, has joined the race to beat their extinction. She co-led an international team of researchers in an unprecedented attempt to analyze more than 2,300 species found only on Madagascar, a vast island off of southeast Africa that is falling prey to deforestation.

Utilizing detailed data that had been painstakingly collected over decades, the team used new technologies to develop a map of regions that must be protected to save the greatest number of species.

“Never before have biologists been able to analyze such a broad range of species over this large an area,” says Kremen. “Our analysis raises the bar in conservation planning.”

Addressing climate change through health innovations

For more than two decades, global environmental health Professor Kirk Smith has studied how indoor air pollution — a result of using biomass fuels such as wood, crop residue, and dung for cooking and heating — affects the health of women, children, and families. Smith has worked to improve the quality of fuels burned in India, China, Uganda, Guatemala, and other countries. And through his efforts in the Guatemalan highlands, families replaced open cooking fires and inefficient stoves with well-ventilated wood-burning planchas, reducing greenhouse gas emissions and improving families’ health.

Smith, who teaches at the School of Public Health, champions the “co-benefits” of controlling greenhouse gas emissions — protecting the environment as well as the health of the population. “The health impacts of climate change act on the most vulnerable groups, specifically the poor,” he says. “Climate change will intensify existing problems — it will make diarrhea worse, make the health effects of hurricanes worse, make disease worse. It’s simple: reduce greenhouse gas emission, improve health.”

Energy & Environment
FROM STEM CELLS TO SOLUTIONS

Berkeley’s burgeoning stem cell research efforts received another big boost in December when the California Institute for Regenerative Medicine (CIRM) awarded two grants totaling $1.8 million to Cal researchers working to turn basic stem cell research into clinical therapies.

CIRM awarded $918,000 to Robert Tjian, professor of molecular and cell biology and newly appointed director of the Howard Hughes Medical Institute, and David Schaffer, professor of chemical engineering and bioengineering. For the past three years, they have been developing molecular tools and technologies for high-efficiency gene targeting in stem cells to help create therapies for conditions such as Parkinson’s, Alzheimer’s, and Lou Gehrig’s disease.

“If you can change specific genes in a defined way, then you can use them for therapeutic applications — and control stem cell behavior to mass-produce a specific cell type for treatments of a particular disease,” says Schaffer.

A second grant went to Steven Conolly, professor of bioengineering, who will receive $882,430 to develop and test a new scanning method to track the location and viability of stem cells within the human body.

These grants bring the campus’s total CIRM funding to more than $31 million, including money to build lab space for the Berkeley Stem Cell Center in the Li Ka Shing Center for Biomedical and Health Sciences, now under construction.
Can you heal me now?

Much of the world’s population lives far from doctors or medical equipment. But cell phones are everywhere — offering Berkeley researchers a critical tool for global health care innovation.

Cell phones may soon offer unprecedented access to medical imaging such as ultrasounds and x-rays. A research team led by Boris Rubinsky, professor of bioengineering and mechanical engineering, built a simple, easy-to-operate data acquisition device, and demonstrated how a cell phone could transmit the raw data to a remote computer to create a medical image, and be sent back to the phone, where the image could be viewed and analyzed.

Students in Professor Daniel Fletcher’s bioengineering class developed a powerful microscope that clips to a cell phone, creating the hybrid CellScope — allowing minimally trained health workers to diagnose deadly malaria or tuberculosis in the field with just one drop of blood. The portable, low-cost scope has myriad potential applications — from patients monitoring blood counts at home to evaluating water quality and plant disease.

asleep is the new AWAKE

By locking in and cross-linking recent experiences, a full night’s sleep enhances memory and learning, according to groundbreaking research led by Matthew Walker, director of Berkeley’s Sleep and Neuroimaging Laboratory. Sleep deprivation, on the other hand, over-stimulates the amygdala — the region of the brain most closely connected to depression and anxiety.

Few people sleep eight hours a night consistently — including, Walker admits, himself. “It’s the modern industrial way of life, a national epidemic of sleep deprivation,” he says. “But if you want to do more during the day, you need to sleep more at night.”
A UC Berkeley medical student found a logical, yet underutilized, place to screen patients for diabetes: the emergency room at the county hospital. Justin Altschuler, 25, who is enrolled in a joint-degree program with UCSF, led a team at Highland Hospital in Oakland to find some of the 5.7 million Americans who are unaware they have the disease. “I went to medical school to take care of the sick, but also to take care of folks who often don’t get the attention they deserve because they don’t speak English or they’re poor,” says Altschuler, who targeted the ER because it’s where poor people — who are at higher risk for diabetes — often go for primary health care. Altschuler’s team, mostly Berkeley undergraduates, conducted blood-sugar tests for some 400 patients in the Alameda County hospital. The hope is that diabetics will be detected while in the early stages of the disease in order to prevent long-term complications that include blindness, kidney failure, and amputation.

Detecting diabetes in the ER

Police detectives will one day have a handy DNA-detection tool that fits snugly in a briefcase and works within six hours, thanks to UC Berkeley chemist Richard Mathies. The high-tech tool — still a few years away from prime time — will enable police to test blood at a crime scene, instead of at a lab, allowing investigators to narrow their pool of suspects and possibly track criminals more quickly. Mathies invented two technologies that are common in DNA sequencers and has essentially built a genetics laboratory on a computer chip — an innovation he’s also using to help scientists look for life on Mars.
Journalism student **Steve Saldivar** was dispatched to the Mission District on inauguration night to find the best party in town and then write a story for a new online site produced by the Graduate School of Journalism. “I wrote the piece on the bus on a napkin,” says Saldivar, 25. “I got back at 1 a.m. and typed it up and sent it in.”

The story appeared the next morning at **Mission Loc@l**, one of six pioneering community-news web sites ([www.localreport.org](http://www.localreport.org)) — covering areas such as El Cerrito, West Oakland, and San Francisco — launched by the school with a Ford Foundation grant last fall.

After a weeklong “boot camp” that immersed 59 first-year graduate students in the new media skills needed to publish stories, photographs, and video on the Internet, students hit the streets to cover crime, profile city officials, and investigate economic trends.

Journalism dean **Neil Henry** says the project fills two gaps: the **lack of local stories in downsized newspapers** such as the *San Francisco Chronicle* and *Oakland Tribune* and the **dearth of journalistic reporting on online news sites**. “We are teaching journalism in many of the same ways we always have — the value of information gathering, interviewing, researching public records, covering city hall,” says Henry, former Africa bureau chief for the *Washington Post*. “These things will never go out of fashion.”

Saldivar worked at the *Daily Californian* as an undergraduate, but only now feels ready to be a journalist in a society driven by digital media. “They don’t care if you can do print,” says Saldivar about future employers. “It’s good to tell people, ‘I can be your reporter; I can be your photographer; I can also work on your web site.’”
The Science of Happiness

Are humans bad to the bone? No, says Dacher Keltner, professor of psychology and director of Berkeley’s Greater Good Science Center. According to Keltner, humans are not “solely wired to maximize desire, to compete, and to be vigilant to what is bad.” In fact, his research reveals that the hormone oxytocin creates trust; a bundle of nerve fibers known as the vagus supports altruism; and emotions such as gratitude, amusement, awe, compassion, and embarrassment promote ethical action and wellbeing. “These emotions are not only essential to the fabric of cooperative societies,” says Keltner, “they may be the key to happiness.”

Keltner, author of Born To Be Good: The Science of a Meaningful Life, will deliver a Discover Cal lecture in Lafayette and San Diego this spring. Details on page 31.

Lending a helping hand to asylum seekers

The chance to provide legal services for asylum seekers from around the world has led to record-level student participation in the California Asylum Representation Clinic (CARC). Operating out of Boalt Hall since 1995, about 100 CARC students last year represented clients from Central American, Asian, and African nations — and helped obtain successful verdicts in 92 percent of their cases.

Adding to the clinic’s legal power is Reed Smith, one of the world’s largest law firms, which provides financial support, mentoring services, and training assistance to CARC’s student advocates.
“I have kindergartners who are reading Harry Potter and kindergartners who still don’t know what the letter ‘A’ is,” says Kyla Johnson-Trammell, (pictured above), an elementary school principal in Oakland. “We’ve got kids with upper-class parents and kids whose parents are in jail.”

The challenges Johnson-Trammell faces are not uncommon in urban schools. But the Principal Leadership Institute (PLI), a program she participated in that is run by the Graduate School of Education, is preparing aspiring leaders to improve teaching and learning in their schools. More than 300 people have graduated and gone on to create a different vision of education.

PLI tackles the special issues that low-income, minority, or other underserved students face. Since half of PLI graduates are persons of color themselves, they are racial allies in the work for justice. For example, the Oakland Unified School District honored Johnson-Trammell’s school last fall for its dramatic achievement gains among African American students.

The role of principal is becoming increasingly complex — manager and teacher, instructional leader and disciplinarian, organizer and politician.

“Every day has its highlights and low ends,” says Nancy Schlenke, a PLI participant and principal in San Francisco. “But I know something got done, and there’s at least one little spark that made me say, ‘I made a difference somewhere.’”●
Today, more than half of the world’s population lives on less than $2 a day. While there are multiple consequences of global poverty, preventing, detecting, and treating disease is a particularly monumental challenge. Across the campus and in projects that span the globe, faculty and students are fighting disease through research, the application of new technologies in real-world settings, and other innovative solutions.
Bringing down dengue fever
Eva Harris had seen the awful symptoms a thousand times. Then in 1995, when Harris (pictured far right), professor in the School of Public Health and a MacArthur Fellow, was training scientists in Nicaragua on diagnosing disease, an intense fever and headache struck. Dengue fever had set in, a mosquito-borne illness that affects more than 100 million people annually. Harris was lucky — some who contract the disease die without proper treatment — and she considers the illness a risk of the trade.

Hailed both for her seminal lab work on dengue's virology, pathogenesis, and epidemiology, and for what she coined “technology transfer” — simplifying the research that is available here for use in developing countries — Harris is attacking the virus at every phase of its life. In 2004, she initiated a long-term, landmark study on the transmission of dengue in nearly 4,000 children in Managua, Nicaragua. The study’s success relies partly on new technologies, including handheld GPS and PDA devices and bar-coding to match the children with the data collected on their samples. In a city that lacks formal street addresses and where most health records are handwritten, the study’s results hold great promise.

“Our research is paving the way for safe vaccines and antiviral therapies,” says Harris. “We’re constantly breaking new ground in the lab, but we’re also trying to get our work to the people.”

Disease detective work in the world’s slums
Growing up in Japan and spending his teenage years in Thailand, Lee Riley brings a global perspective to his work in public health. Riley, a professor at Berkeley’s School of Public Health, was working on infectious disease research at Stanford when the Centers for Disease Control asked him to participate in a project with the World Health Organization in India. That experience exposed him to the impact of infectious diseases in urban areas in the developing world.

He has since made global slum health his cause and his calling — especially important now that more people globally live in cities than in rural areas. “A visit to the favelas of Rio de Janeiro or the shantytowns of Nairobi shows that a slum, by any name, is an unhealthy place to live,” Riley says. In Salvador, Brazil, Riley led an effort to understand the causes of leptospirosis, a bacterial disease spread by rats that flourishes during the rainy season, when areas without sewers become flooded. “When Brazilian officials saw our findings, they were embarrassed,” Riley recalls. “They cleaned up the favelas and put in drainage pipes, and asked the team to survey other cities.”

Still, more sustainable preventive measures are needed, Riley says, and the field laboratories in Brazil and other countries provide real-world experience for students. “We can do basic research in Berkeley,” Riley observes, “but if we didn’t have the field sites, we couldn’t gather the data and conduct the tests we need to understand who’s likely to become infected and start working toward solutions. It connects academia to the real world.”
Health in your hands
An estimated 7 million people live in the slums of Mumbai, India, where contaminated water and poor sanitation have led to a high incidence of intestinal disease. While point-of-use treatment technologies are a promising approach to disinfecting water, the challenges are making them widely available and promoting their use.

In 2004, a group of Cal students across several disciplines formed Haath Mein Sehat (HMS) — Hindi for “health in your hands” — to curb diarrheal diseases. Their initial goal was to develop a high-quality, low-cost filter that residents could easily afford and use.

“We found in some cases that the water was more contaminated in the homes than when residents first collected it from public taps,” says Andrea Silverman, who is pursuing a master’s and Ph.D. in environmental engineering. “Our model is designed so that users can’t put their hands in the storage container and potentially re-contaminate the water.”

The group soon realized that the technology was not enough. “You have to partner public education with the technology to teach such topics as storing water safely and the transmission of disease,” says Emily Kumpel, HMS director and a Ph.D. student in civil and environmental engineering. HMS began soliciting local college students to conduct educational workshops for slum residents. Today there are more than 100 volunteers from six colleges in Mumbai and Hubli, and its mission has evolved to empower both the local students and the residents to improve slum conditions.

“HMS is helping to create a world where health is not limited by poverty,” says Kumpel.

Whether working in the lab, field, or both, a strong sense of value and urgency unites these Berkeley faculty and students as they fight diseases in places where it matters most.
Campaign launches with promising results

Despite the recession, Cal alumni, parents, and friends signaled their support for UC Berkeley by contributing a whopping $183 million to the campus between July and December 2008. The six-month totals were second only to the record set during the same period in 2007, when the campus raised $221.6 million, boosted by a $113 million challenge grant from the Hewlett Foundation.

The campus announced The Campaign for Berkeley in September and, as of January 31, 2009, had raised $1.43 billion toward the $3 billion goal.

“We thank our Cal family, which has given generously to UC Berkeley during these difficult economic times,” said Associate Vice Chancellor for University Relations David Blinder M.A. ’78, Ph.D. ’81. “Berkeley is a resilient institution that has weathered previous recessions and depressions, and during times of economic uncertainty, support for Berkeley is an investment in preeminent public higher education.”

In 2009, the campus will continue to make energetic efforts to grow Cal’s donor base, with the help of the campaign co-chairs, Gerson P. Bakar ’48 and Barbara Bass Bakar. Bay Area philanthropists who have given generously to the Haas School of Business, are leading the charge in the first year of the campaign.

“Just as I was helped by past benefactors to the University, I am pleased that Barbara and I are able to help the students who will be the future leaders of our society,” said Gerson Bakar.

Private Support for Berkeley

July 1–December 31 Yearly Comparisons
Is there life after the Obama campaign?

Just a few months after her 18th birthday, freshman Molly Kawahata attended the Democratic National Convention in Denver as California’s youngest delegate. It was an event that capped months of tireless work — before school, after school, during school — as the state and then national high school director for Barack Obama’s campaign.

“My teachers were incredible and very tolerant,” laughs Kawahata about her senior year at Gunn High School in Palo Alto, when she could barely find a week to fill out 18 college applications.

Fortunately, it all worked out: She graduated with honors, got into UC Berkeley, and mobilized students to help Obama win the election.

Kawahata, who walks and talks with exuberance, says she was stirred by Obama’s philosophy more than any one issue and by his ability to transcend partisanship in a way that spoke to her generation. Combining social networking on sites such as Facebook with other traditional grassroots tactics, she says Obama empowered young people to find their own ways of campaigning.

“The fact that the world celebrated alongside us on November 4 — to see people excited about our country again was so moving to me,” says Kawahata, who joined the crush of humanity in Washington, for Obama’s inauguration. Without missing a beat, she recites a snippet of Obama’s inaugural speech: “‘We will extend a hand if you are willing to unclench your fist . . .’”

Nursing a bad case of campaign withdrawal, Kawahata just launched a web site called “This Political Life” (thispoliticallife.com), an online political debate geared to students. Everyone asks if she plans to study politics, but Kawahata won’t be hemmed in. She’s pondering 12 different majors, including pre-med.

And after six months on campus, she’s enjoying a school that matches her enthusiasm: “I love how big this school is,” she says with an easy smile. “I love that I will never stop meeting new people.” 

Faces of Excellence
Building awareness for the disabled

Until she came to Cal, Shannon Coe, Class of 2000, had never heard of disability rights. Born in war-torn Vietnam, Coe contracted polio as a toddler and fled the country with her family when she was four years old. She received her first wheelchair when she arrived in America months later — a vast improvement in mobility. Still, growing up in inner-city Los Angeles, Coe felt isolated because of her disability, and was taunted at school.

With her acceptance to Berkeley came a letter from the Disabled Students’ Program (DSP), which ensures that Berkeley’s 700-plus students with disabilities have equal access to educational opportunities. It was “eye-opening,” Coe, 32, says. “I never knew that disabled people could be just as integrated and involved. DSP gave me confidence that I was capable, and how to compensate or work around issues to succeed in the world.”

At Berkeley, Coe began to cut a global swath as a disability advocate, interning with the Department of Justice in Washington, and studying in England, where she persuaded a member of Parliament to shadow her for a day to understand barriers faced by the disabled. After graduating with a B.A. in mass communications, Coe served in the Peace Corps, organizing Special Olympics projects and teaching English in Paraguay.

She has traveled to 43 countries, including to Vietnam, Cuba, and India on volunteer missions to deliver wheelchairs.

“In undeveloped countries, nothing’s accessible,” she says. “Disabled people can’t even leave the house.”

Coe, who was chosen Ms. Wheelchair California 2008 and first runner-up Ms. Wheelchair America 2009, is now studying for her master’s degree at the Monterey Institute of International Studies — with the goal of advocating on behalf of the disabled worldwide.

You can listen to Coe’s speeches on YouTube. For information on Berkeley’s Disabled Students’ Program, visit dsp.berkeley.edu or call 510.642.0518, TTY 510.642.6376.
Be good & you will be lonesome.

Mark Twain
“Mark Twain at Play” brings to light the relationship between the famous author’s leisure pursuits and his writing. Showcasing manuscripts, albums, and other rare artifacts from Berkeley’s Mark Twain Papers archive — the world’s largest collection of his work — the exhibit is on view at the Bancroft Gallery, located within the beautifully renovated Bancroft Library, every Monday through Friday from 10 a.m. to 4 p.m. through March 31.
Nearly 400 people attended the Berkeley Club of Hong Kong’s black-tie charity ball in November. The event raised $250,000 for undergraduate scholarships.

1. Coleman Fung ’87 (left) and Leslie Chung mingle during the cocktail hour.

2. Dave Wong ’84 (left), president of Berkeley’s Hong Kong club, poses with Tricia Tran ’99 and her husband, Travis Darrow ’98.

3. Owen Patotzka (far left), John Warren (second from left), and Howard Friedman (right), trustees of the Fred H. Bixby Foundation, joined School of Public Health Dean Stephen Shortell (center) and Chancellor Birgeneau at a reception to celebrate the foundation’s $15 million gift to establish the Bixby Center for Population, Health, and Sustainability.

4. In January, the University Library opened its doors to more than 300 donors, alumni, and friends who were invited to tour Doe Library, the Gardner Stacks, and the newly renovated Bancroft Library (right). Guests enjoyed lunch in the Morrison Library and learned about the Campaign for the University Library.

5. Steve ’74, Ph.D. ’82 and Carolyn ’74 Balling enjoy pinot noir at “Sustaining the Harvest,” a recent wine-tasting and panel discussion on sustainable viticulture hosted by the College of Natural Resources.

6. Berkeley Law Dean Christopher Edley Jr. and Ariadna Miller attend a pre-inaugural reception in Washington. Miller and her late husband, the Honorable G. William Miller ’52, provided funding for the law school’s Miller Institute for Global Challenges and the Law.
Upcoming Events

Discover Cal Traveling Lecture Series
The Discover Cal series brings UC Berkeley’s distinguished faculty to the extended Cal family for provocative lectures in an informal setting. Come hear their insights on issues that matter to contemporary society.

The Goldman School of Public Policy held a post-election event for its board entitled “The New Administration’s First 100 Days: So Much to Do — What to Do First?”

7. Attendees included (from left) Candy ’50 and Howard ’50 Friese, and Bill ’50 and Ann ’50 Anderson.
8. (From left) Steve Silberstein ’64, M.L.S. ’77 and Doug Goldman ’74 chat with Professor Henry Brady.

9. Blum Center for Developing Economies trustees Richard C. Blum ’58, M.B.A. ’59 (third from right) and Erica Stone ’80, M.B.A. ’87 (second from right) receive a scrapbook from (pictured from left) Farzana Abed, Greg Elenbaas, Casondra Koufos, Ashoka Finley, Abe Kaslow, and Theora Cimino, students minoring in Global Poverty and Practice.

10. Graduate student Alex Mack (right), pictured here with head football coach Jeff Tedford, received the 2008 Draddy Trophy during a December ceremony in New York. The National Football Foundation presents the Draddy, also known as the “Academic Heisman,” to college football’s top scholar-athlete and includes a $25,000 postgraduate scholarship.

Charter Gala 2009
An evening of fine dining, music, and dancing to mark the 141st anniversary of the University of California and to honor the 2009 Alumnus of the Year, Robert D. Haas ’64.

April 4 – San Francisco
Fort Mason Center
6 p.m. – midnight
Visit alumni.berkeley.edu/chartergala.

Discover Cal

The Challenge of Change: What to Expect from the Obama White House
March 17 – Redwood City • April 29 – Los Angeles

Altruism in Times of Stress and Hardship
March 25 – Lafayette • April 30 – San Diego
Visit discovercal.berkeley.edu.
11. Members of the campus community gathered outside of Memorial Stadium for the official groundbreaking for the new Student-Athlete High Performance Center. The 142,000-square-foot facility will house offices, locker rooms, and training facilities for student athletes and staff in 13 sports. Pictured (from left) are Kat Reilly (volleyball), Barclay Simpson ’66 (ex-’43), Director of Athletics Sandy Barbour, Chancellor Birgeneau, Kendrick Payne (football), and Jorden LaFontaine-Kussman (soccer).

12. Kass Green (left), College of Natural Resources board member and UC Berkeley Foundation trustee, meets with Li-Chiang Chu ’64, M.S. ’67, a new “Builder of Berkeley,” at the college’s campaign kickoff celebration.

13. Amy Worth ’75 (left), Thomas Worth ’72, J.D. ’76 (center), Carol McClendon ’77 (second from right) and Charles Worth ’46 (seated) awarded the Worth Family Scholarship to Erica McClanahan ’09 and Marc Pfeiffer ’10 during the California Alumni Association’s 24th Annual Leadership Award Recognition Luncheon.

14. (From left) Ph.D. candidate in science and math education Adi Adiredja ’06, Graduate Division Dean Andrew J. Szeri, fellowships coordinator for the Graduate School of Education Karen Sullivan M.S.W. ’82, and Professor David Stern gathered at the recent Graduate Fellowship Reception.

15. UC Berkeley alumni and friends give Graduate Division Dean Andrew J. Szeri a warm welcome in chilly Korea at January’s Meet the Graduate Dean Dinner in Seoul.

16. (From left) Haas School of Business board member Liong Seen Kwee ’74, Jitendra Singh, dean of the Nanyang Business School in Singapore, and Haas Dean Rich Lyons ’82 celebrate the launch of the school’s campaign in Asia at a gala in Singapore.
Just as the financial bailouts began, a new report showed that states are faltering in providing affordable college opportunities. Tuition is rising dramatically, more students are dropping out of high school, and America is falling behind other nations. Robert Reich, professor of public policy and former U.S. secretary of labor, shared his perspective on National Public Radio’s “Marketplace” on December 3, 2008.

Our preoccupation with the immediate crisis of financial capital is causing us to overlook the bigger crisis in America’s human capital. While we commit hundreds of billions of taxpayer dollars to Wall Street, we’re slashing our outlays for public education.

Education is largely funded by state and local governments whose revenues are plummeting. As consumers cut back, state sales taxes are shrinking, and as home values decline, local property taxes are taking a hit. Three-quarters of our states are facing budget crises. As a result, schools are being closed, teachers laid off, after-school programs cut, so-called “noncritical” subjects like history eliminated, and tuition hiked at state colleges.

It’s absurd. We’re bailing out every major bank to get financial capital flowing again. But we’re squeezing the main sources of our human capital.

Yet, the future competitiveness and standard of living of America depend on our peoples’ skills, their capacities to communicate and solve problems, and innovate — not their ability to borrow money.

What’s more, human capital is rooted here, while financial capital moves around the globe at the speed of an electronic blip. Right now global capital markets are frozen, but the big money — mostly in Asia and the Middle East — will come back here eventually, bailout or no bailout.

It’s our human capital that’s in short supply. And without adequate public funding, the supply will shrink further. I’m not saying funding is everything, but without it we can’t attract talented people into teaching, keep classrooms small, give our kids a well-rounded curriculum, and ensure that every qualified young person can go to college.

So why are we bailing out Wall Street and not our nation’s public schools and colleges? Partly because the crisis in financial capital is immediate, while our human capital crisis is unfolding gradually. But maybe it’s also because we don’t have a central banker for America’s human capital — someone who warns us as loudly as Ben Bernanke did a few months ago of dire consequences if we don’t come up with the dough.