

Your University

A NEWSLETTER FROM THE UNIVERSITY OF CALIFORNIA PRESIDENT FOR FRIENDS AND ADVOCATES OF UC



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RESEARCH IN ACTION WORKING FOR THE PEOPLE OF CALIFORNIA This special report highlights UC's efforts to curb outbreaks of agricultural contamination – both the natural and the terrorist kind. (Inside)

DID YOU KNOW?

- Federal and state funding for academic science and engineering R&D failed to keep up with inflation in fiscal year 2006, according to the National Science Foundation.
- Nevertheless, five University of California campuses were among the top 20 universities in science and engineering research spending: UCLA (No. 3), UC San Francisco (No. 5), UC San Diego (No. 7), UC Davis (No. 16) and UC Berkeley (No.19).
- In non-science research, UCLA made the top 20 list at No. 11 and UC Santa Cruz at No. 20.

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Regents strengthen diversity commitment

The UC Board of Regents adopted a policy at its September meeting that affirms the importance of diversity and identifies actions for improvement.

"We have an obligation not only to serve all segments of California's population but also to produce graduates who will function well as members and leaders of a state that has historically been characterized by robust diversity," said UC Provost Wyatt R. Hume.

Hume co-chaired a UC study group that examined diversity. The group's report affirms that diversity is fundamental to UC's ability to achieve its mission as a public institution and to maintain its quality and service to the state.

The Regents also endorsed the report's finding that "change is needed." The study group found that, while there are many pockets of success and innovation, the university overall has not made sufficient progress and needs to focus more on seeking diversity.

"The Regents are sending a clear message today that the status quo is not acceptable to us," said Regent Gerald L. Parsky, a study group co-chair.

The Regents directed the UC president to report annually on the status of diversity among students, faculty and staff. A group will be created to guide the continuing diversity efforts.

To read the entire report: www.universityofcalifornia.edu/news/2007/diversityreport0907.pdf

Researchers contribute to Nobel Peace Prize work

Scientists throughout UC and its affiliated national labs contributed to the work of the U.N. climate change panel that shared the 2007 Nobel Peace Prize with Al Gore.

Dozens of UC global warming experts have participated in the Intergovernmental Panel on Climate Change reports over the last two decades. Those included Richard Somerville of the Scripps Institution of Oceanography at UC San Diego, who was a lead author of the fourth international report issued in February. Others from Scripps included professors Lynne Talley, V. Ramanathan, Jeff Severinghaus and Nobel Laureate Mario Molina.

More than 40 staff members from the Lawrence Livermore National Laboratory's Program for Climate Model Diagnosis and Intercomparison have made major contributions to all four of the panel's reports, from 1990 to the 2007 report.

From UC Berkeley, researchers included Inez Fung, William D. Collins, Norm Miller and Dan Kammen. Collins and Fung are also part of the Earth Sciences Division of the Lawrence Berkeley National Laboratory. Other Berkeley Lab scientists who contributed to the global warming report include Mark Levine, Surabi Menon, Evan Mills, Lynn Price, Jayant Sathaye and Ernst Worrell of the Environmental Energy Technologies Division.

UC Irvine participating climate scientists included Donald Blake, Michael Goulden, Gudrun Magnusdottir, Michael Prather, James Randerson, Soroosh Sorooshian, Susan Trumbore, Stan Tyler, Jin-Yi Yu and Charlie Zender. Charles Kolstad, the Bren Professor of Environmental Economics at UC Santa Barbara, was a report author and doctoral student Nicholas Burger a contributor. UCSB economics professor Stephen J. DeCanio was a co-lead chapter author in 2000.



Scripps climate scientist Ralph Keeling demonstrates how to take an atmospheric carbon dioxide sample during Al Gore's May visit.

Photo credit: Bob Ross.

UCLA treats returning vets

U.S. Marine Cpl. Aaron Mankin has endured multiple surgeries after being wounded in Iraq. Now through a new pilot project called Operation Mend, UCLA's world-class plastic surgery team has been enlisted in his care.

A new partnership between UCLA Medical Center and Brooke Army Medical Center in San Antonio has been established to help treat U.S. military personnel wounded during service in Iraq and Afghanistan.

Operation Mend launched with the help of philanthropist Ronald A. Katz, a well-known inventor and UCLA Medical Center board member. Katz recognized that providing excellent care to injured soldiers doesn't have to be limited to the U.S. Department of Veterans Affairs and the Armed Services. The project aims to serve as a model for other medical institutions interested in helping wounded service members.

Mankin, 25, the first soldier to participate in Operation Mend, has begun a series of facial reconstructive surgeries at UCLA. The combat correspondent was injured in Iraq in May 2005, his face badly scarred when an explosive device went off, burning more than 25 percent of his body.

Mankin was taken to Brooke Army Medical Center within 48 hours of being wounded, and for the next two and a half years he had multiple surgeries, including skin grafts and other life-saving operations. Last month he arrived at UCLA, where a medical team led by Timothy Miller, professor and chief of plastic surgery, has already begun the process to reconstruct the young soldier's face. Mankin underwent the second stage of reconstructive surgery on Oct. 2.

"That UCLA and others have opened their arms, and opened their eyes, to the fact that we are here, and the way they have treated me and my family gives me great hope," Mankin said. "Not just what to expect for myself, but what to expect for the service members to follow."



Cpl. Aaron Mankin is staying at UCLA Tiverton House with his wife, Marine Lance Cpl. Diana Mankin, and 8-month-old daughter, Maddie, while he undergoes surgery.

Photo courtesy of UCLA Health Sciences media relations.

Mankin and his wife, Lance Cpl. Diana Mankin, and their 8-month-old daughter, Maddie, are based at Brooke Army Medical Center but are staying at UCLA Tiverton House while Mankin undergoes surgery.

The idea for the program began last November when Katz saw Mankin being interviewed on CNN.

"I saw Aaron's face, and I thought it would really be wonderful if something could be done," Katz said. Three months later, Katz attended the opening of the Center for the Intrepid at Brooke Army Medical Center and saw many other soldiers with facial disfigurements. "I committed myself at that point in time that we were going to do whatever we could to make Aaron and others who suffered that same type of problem better," he said.

Katz approached Gerald S. Levey, UCLA's vice chancellor of medical sciences and dean of the Geffen School of Medicine, who immediately got on board. Within six months, Operation Mend was born.

"I knew of the spectacular, world-class capabilities of UCLA's plastic surgery team, and I thought, if we could only avail these kids of that kind of superb capability, it would be a change in their lives," Katz said. "It's going to change Aaron's life. It's going to change these others. And it's such a joy to see it happen."

Mankin has been a very popular patient, and at a press conference Oct. 1 he received a special gift from his case manager, UCLA clinical nurse specialist Patti Taylor. A member of Patches Fabrics, a community group in Reseda that creates "quilts of valor" for wounded soldiers, Taylor presented Mankin with a colorful quilt made of fabric covered in American flags. More soldiers are already scheduled to follow Mankin to UCLA as part of Operation Mend.

"I get to go back to these guys at BAMC and say 'Hey, look at me, we can make this happen,'" Mankin said. "The implications of what will come from this collaboration are more far-reaching than anyone has yet to imagine."

UC restructuring effort continues

The initiative to improve administrative efficiency and effectiveness within UC's Office of the President has moved to its second phase, with a focused look at specific restructuring opportunities.

The effort, launched in April, began with a five-month independent review by the Monitor Group. The consultants concluded in their September report to the Regents that underperformance in key areas has led to a "broad lack of confidence" on the part of the Regents and the campuses.

"Talented people are held back by the processes and systems they inherited – solving these underlying problems holds the promise of not only cutting costs and improving efficiency, but also unlocking

the talent of the people working across the university," they said.

Provost Wyatt R. Hume in his capacity as chief operating officer has established work groups to focus on improvements in several key areas, among them UC's budget process, in an effort to make it more open and transparent; capital projects and planning; human resources; external relations; and the appropriate role for the Office of the President. The groups are expected to return findings and recommendations early next year.

In the meantime, Hume is moving forward to identify and capture immediate savings. This includes a recently announced control on filling any current vacancies.

Financial aid to rise

Financial aid will increase to help offset recently approved student fee increases at UC professional schools.

"I want to reassure professional school students that this fee plan includes a robust financial aid program to preserve access and affordability," said UC President Robert C. Dynes. "All the campuses plan to use an amount equivalent to at least 33 percent of all new fee revenue for financial aid."

The UC Board of Regents adopted the three-year plan in September to help schools maintain and enhance the quality of their programs.

The plan calls for fee increases of 7 percent annually at most UC professional schools. However, for nine campus programs in the fields of law, business and pharmacy, the Regents endorsed increases in total charges ranging from approximately 8 to 15 percent annually. Meanwhile, financial aid also will increase substantially.

The UCLA law school plan includes a return-to-aid of about 38 percent on new professional degree fee revenue generated in 2008-09 to expand its Loan Repayment Assistance Plan and provide additional grant funding. UCLA's repayment program is expected to nearly quadruple to \$1 million by 2010-11, and grant funding is expected to rise from \$5.6 million to \$9 million during the three-year plan. The Berkeley and Davis law schools have similar plans.

Law school graduates who take jobs in qualified public interest positions could have some or all of their student loan debt canceled, depending on their salary and length of employment.

All programs also plan to inform students about the availability of financial aid through their publications and Web sites. The fee plan also requires the programs to evaluate the impact of the fee increases on student access and inclusion and to report to the Regents on any changes in the enrolling student body population.

StatFinder boosts access to admissions data

Accessing UC admissions data just got a whole lot easier, thanks to a new interactive online tool launched Oct. 30.

StatFinder, a first-of-its-kind Web site for a public university, will allow anyone to search a wealth of admissions data with a few simple clicks of a mouse.

For example, upon full build-out, the parents of a prospective student in the Central Valley will be able to see how many people from their community have been admitted to a UC campus in recent years. A legislator will be able to learn more about the diversity of admitted students from different state regions. A high school counselor will be able to learn the number of "a-g" and honors courses completed by graduates who were admitted to UC.

The full scope of UC StatFinder will be brought online over the next three years. By mid-2008, statistics on the performance of enrolled students will be added, including graduation and retention rates, time-to-degree, UC GPAs and majors. The final phase of UC StatFinder will be useful for parents, students and counselors as statistics on admissions and success at UC will be reported for individual California high schools and community colleges.

To view StatFinder: <http://statfinder.ucop.edu>

MacArthur Foundation recognizes the genius of UC

You may be smart, but are you a genius? Three researchers affiliated with UC can now say they are.

The three were among 24 recipients this year of \$500,000 genius grants from the John D. and Catherine T. MacArthur Foundation.

MacArthur Fellows include Cheryl Hayashi, an associate professor of biology at UC Riverside who studies spider silks; My Hang Huynh, a chemist at Los Alamos National Laboratory who is developing techniques to make "green" explosives; and Claire Kremen, an assistant professor of environmental science, policy and management at UC Berkeley who studies bee behavior.

Other 2007 MacArthur Fellows included three UC Berkeley alumni: Jay Rubenstein, an associate professor of history at the University of Tennessee; Yoky Matsuoka, an associate professor of computer science and engineering at the University of Washington; and Michael Elowitz, an assistant professor of biology and applied physics at the California Institute of Technology.

Lab celebrates 55 years making America safer

For more than half a century, the University of California managed the Lawrence Livermore National Laboratory, playing a key role in maintaining national security and making scientific breakthroughs.

As of Oct. 1, UC now co-manages the lab as part of a team, Lawrence Livermore National Security, which includes Bechtel, BWX Technologies, Washington Group and Battelle.

The transition celebration was marked by a daylong event Sept. 25 in Livermore with exhibits, panel discussions, a video and commemorative photo book *Making History ... Making a Difference*. UC hosted thousands of people at the event, which celebrated more than 55 years managing the lab.

"You have had a record of innovation, and you have had a record of service to the nation, which are remarkable," UC President Robert Dynes told attendees.

On Sept. 2, 1952, the Livermore branch of the UC Radiation Laboratory opened with a staff of 76 drawn largely from UC Berkeley. The mission has since expanded to focus on national security, energy, the environment and broader science. Today, the staff is more than 8,000.

"We who are the future of the laboratory really do stand on the shoulders of giants," LLNS Director George Miller said. "We have a laboratory extraordinarily strong in science and technology. President Bob Dynes said it – the one word that is not in the lab's lexicon is impossible. That is a tremendous legacy we have inherited and a tremendous challenge."



Lab employees check out the Defense and Nuclear Technologies display.

Photo courtesy of LLNL media relations

UC Center Sacramento grooms next generation of leaders

When Angela Wagner arrived at the UC Center Sacramento in spring 2005, a career in public policy wasn't on her to-do list. An internship in the capital office of then-Sen. Liz Figueroa and the center's rigorous academic program changed her career direction.

Always a straight-A, serious student, Wagner said the Scholar Intern Program increased the intensity of her commitment. "That's when I found my spark," she said.

Today she's a legislative advocate with Political Solutions, juggling nine health-related clients for the Sacramento lobbying firm, including the March of Dimes and the California Nurse Midwives Association.

Wagner is one of 328 UC students who have had internships through the 5-year-old center. The program has placed students in more than 160 legislative offices, nonprofits and government agencies, and now sometimes gets more requests for interns than it can fill. In addition to attending classes, the interns work 30 to 40 hours a week. They earn credit for a full quarter or semester, depending on the academic schedule of their home campus.

"They teach you a lot of real-world skills like networking and making business connections, learning from other students and how they can be a resource," said Wagner.

After her internship, Wagner was waitressing and finishing her last quarter at UC Davis when she wrote to Emily's List, an organization that supports progressive political candidates friendly to women's issues. The group found her a job with the 2004 Mike Machado for Senate campaign. After election season, Wagner found a job with Political Solutions.

"It's been beyond my wildest dreams," she said. "It's definitely not your typical desk job."

Leaders in training

About 10 percent of the students who complete the internship program land jobs in Sacramento after graduation.

"We're doing our part in building up the next generation of leadership for the state," said center Director Gary Dymski. "In the Sacramento community many of the players are Kennedy generation folks. They're in their 50s and 60s and contemplating retirement. Those people need to be replaced. We're part of creating a transition in bringing these young, talented people in."

The center gives students a chance to figure out how California government really works, said Alan Auyeung, currently a legislative aide for Sen. George Runner. A political science graduate from UC Davis, Auyeung said the program helps ease the transition from student to career.

"The ways you interact as a student are different than how you interact in the professional world," he said. "You're more strategic in building your relationships."

Arianna Smith, an English and history grad from UC Davis, parlayed



Angela Wagner (right) and California Nurse Midwives Association President Ruth Mielke welcome members to the group's 2007 Lobby Day.

her center internship with the capital and district offices of former-Sen. Deborah Ortiz into a coveted Assembly Fellowship with Speaker Pro Tempore Sally Lieber. Recently Lieber hired her as a full-time staffer.

"I was on a track to become a high school or community college teacher," Smith said. "My career trajectory changed completely. I couldn't love my current job more, and I wouldn't be here if it weren't for my center experience."

One of the most rewarding aspects of her work, she said, was waiting at the end of the legislative session for the governor to sign bills she worked on, including one that updated organ donation laws.

"I feel so satisfied I was a part of that," she said. "I know I will be helping a lot of people I'll never meet."

California's future

Nina Kapoor, a colleague in the 2005 class of interns, mirrored Smith's success by winning a Senate Fellowship with Sen. Joseph Simitian. Kapoor interned with the Assembly Committee on Public Safety and worked on a project to research state sex offender statutes. After graduating from UC San Diego with an economics degree, she worked at the UC Center on an alternative energy research project. That experience ignited her passion for environmental work, something she pursues in her fellowship. She credits the UC Center with helping her get the fellowship and giving her an understanding of government.



"Sacramento is such an insider game," she said. "When you're part of it, you feel like you're part of something special. You're getting to be a part of the future of California."

State Governmental Relations chief to retire

Steve Arditti, UC's assistant vice president and director of State Governmental Relations, is retiring after 40 years of service to the university.

Arditti has represented UC with unswerving devotion and vigor during a long and distinguished career, said Bruce Darling, executive vice president of University Affairs, in announcing Arditti's retirement.

In addition to his role as director of State Governmental Relations, Arditti was an early champion of the UC Center Sacramento, which has expanded, diversified and strengthened the university's presence in the state capital.

"From his earliest days at UC, he has been a tireless advocate on the university's behalf, providing keen insight, knowledge and experience to the university's lasting benefit," Darling said.

Arditti will stay on the job until Dec. 31 or until a successor is found.





From fields to families: UC's efforts in food safety science

When an outbreak of *E. coli* related to raw spinach consumption killed three people and sickened more than 200 in 2006, UC researchers mobilized. Their efforts helped to identify the strain of bacteria and trace the origins of the contamination to a San Benito County farm.

As an outcome of that incident, the Center for Produce Safety opened at UC Davis in April with support from food industry leaders, the California Department of Food and Agriculture, and UC's Agriculture and Natural Resources division. Located within the UC Davis Western Institute for Food Safety and Security, the center plays a vital role in ensuring the safety of the state's produce supply.

With agriculture revenue of more than \$31 billion a year, California is the nation's No. 1 food producer and exporter and the fifth-largest food supplier in the world. More than 150 countries around the globe rely on California agricultural products.

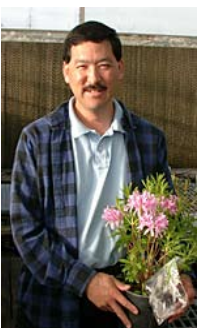
The Center for Produce Safety, through its partnership with produce producers and state agriculture and health agencies, is doing its part to support California's farmers. The center's mission includes initiatives for new research as well as field-level training and outreach to supplement industry safety programs already in place.

In addition to tackling natural sources of contamination, the Western Institute for Food Safety and Security created an agroterrorism training program. Certified by the U.S. Department of Homeland Security, the curriculum trains workers in the dangers of intentional contamination of agricultural products in processing plants, restaurants, hospital and school food services, and groceries.

UC's legions of cooperative extension advisors, microbiologists, veterinary medicine specialists and other food safety experts are laying a strong scientific foundation on which to build sound regulatory policy and industry best practices.

At stake is the health of consumers, the food industry and the environment. Here is a look at some of the UC efforts in produce safety.

Salinas Valley center home to pest detectives



Steven Koike, University of California Cooperative Extension farm advisor in plant pathology
<http://ucanr.org/delivers>

In the UC Cooperative Extension's Monterey County headquarters, farm advisors, working with university researchers, provide practical, field-oriented assistance to local producers.

The facility has a fully equipped microbiology lab used for detecting and diagnosing plant pathogenic fungi, bacteria, viruses and nematodes. Due to the urgency of the food safety situation, farm advisor Steven Koike has been focusing the lab's efforts to work on *E. coli*.

"Specifically, we are trying to develop information on where *E. coli* is coming from, how it moves around and how it survives in the field," says Koike.

Contamination rare

The task remains challenging with so many possible sources of contamination including livestock, wildlife, humans, irrigation water and even birds and insects. Yet, in the big picture, Koike says, the

amount of contaminated produce that makes its way to consumers is small compared with the millions of pounds of food safely brought to market.

"In fact, very little of the produce has such concerns and the industry is doing a good job," Koike says. "Of course, given the occasional outbreak, industry is called upon to do better."

Consumers need to realize that "zero risk" is not realistic, he says. Produce, grown outside under natural conditions, will never be entirely free of the risk to exposure to *E. coli* and other organisms.

Detecting agroterrorism

Koike's lab is also part of the National Plant Diagnostic Network. Created in the aftermath of the 9/11 terrorist attacks, the network focuses on detecting and identifying plant pathogens deliberately introduced in an act of bioterrorism.

With funding from the U.S. Department of Agriculture Cooperative State Research, Education and Extension Service, the network includes five regional hubs based at land grant universities. The Western regional hub is located at UC Davis under the direction of plant pathology professor Rick Bostick. The Western consortium encompasses universities and state departments of agriculture throughout the West as well as U.S. territories in the Pacific.

Buffers separate cows from crops



Rob Atwill, interim director, Western Institute for Food Safety and Security, professor of Environmental Animal Health and Medical Ecology, UC Davis School of Veterinary Medicine
<http://wifss.ucdavis.edu>

The Western Institute for Food Safety and Security, based at UC Davis, provides both research and outreach for consumers and food producers. Collaborating with U.S. and

state departments of health and agriculture, other universities, and government agencies, the institute examines all stages of food production and works with producers to provide sound scientific basis for food-handling policies and best practices.

“UC has consistently provided critical input to the food industry,” says Rob Atwill, interim institute director. “We’ll continue to work with the industry to identify what’s working and not working in the field. We’ll be busy for years.”

Spacing out

One of Atwill’s ongoing research projects is testing the effectiveness of grassland buffer zones between fields of food crops and pastures where cattle roam. His studies have found that a zone of grasses even 3 to 6 feet wide under certain conditions will reduce the spread of *E. coli* and other harmful bacteria from livestock feces.

The soil acts as a filtration medium to curb the spread of bacteria from water runoff. Studies haven’t yet found a specific variety of

grasses more effective than another, but the trick, Atwill says, is to have a well-maintained buffer where the soil isn’t compacted and water can drain through it rather than run off the surface.

“The buffer is made to help the ranchers,” says Atwill. “The buffers are not a cure-all. To really promote food safety requires a variety of strategies.”

Cows aren’t the sole carrier of harmful pathogens. Birds, flies, wildlife, humans and dogs also can contaminate crops.

“I think we need to be unbiased,” says Atwill, a doctor of veterinary medicine. “Wildlife as a vector for food-borne illness is underappreciated.”

Changes in consumer buying habits have increased the risk for potential spreading of contamination. Before the advent of convenient, packaged loose greens, people bought lettuce and spinach in bunches or heads. If contamination with *E. coli* happened in the field, removing the outer leaves usually removed the problem.

Trade-offs

The produce companies are motivated to secure the safety of their products, and consumers are demanding it. But on the policy side, Atwill says there are issues worth debating.

“How safe do we want our food to be?” he says. “Safety will come at a cost.”

Erecting 8-foot-high fences across the rural landscape and trapping large numbers of wild animals will change the environment.

“Is that the landscape we want?” Atwill asks. “Or do we accept some illness each year to have open spaces?”

UC delivers before and after the harvest



Trevor Suslow, extension research specialist, Postharvest Quality and Safety, UC Davis Department of Plant Sciences
<http://ucgaps.ucdavis.edu>

UC’s food safety mission extends from farm to consumer. Each step of the food production and delivery cycle delivers its own challenges. Cooperative Extension specialist Trevor Suslow focuses on post-harvest micro-

biology and maintaining produce quality through transportation and distribution.

“From the moment of harvest, it’s a race to the consumer,” Suslow says. “With fresh produce you really are racing the clock.”

The 2006 *E. coli* outbreak in fresh spinach triggered intense emphasis on produce testing to prevent contaminated products from reaching consumer dinner tables. The level of testing has grown dramatically over the last year, Suslow says. But to make sure the freshest produce gets to market quickly, producers can’t hold fruits and vegetables in a warehouse for extended periods. Most fresh produce has about a 10-hour testing window, he says. UC researchers are evaluating rapid testing methods to determine the best practices for quick and careful screening.

On the hunt

Much of the university’s food safety research and education efforts involves prevention tactics. Once fresh produce is contaminated, it’s difficult to remove the pathogens.

“We still don’t have a clear handle on how contamination arises,” says Suslow. “There is no guaranteed ‘kill’ step.”

Efforts continue throughout the UC system to identify potential sources of food-borne sickness. Working closely with field advisors, campus researchers help isolate contamination sources, ruling out some suspects and intensifying the hunt for yet undetected risks.

“We from the university are addressing irrigation water in the Salinas and Central Coast areas and trying to see if it’s a source of contamination,” says Suslow.

So far, no association has been found between irrigation water and contamination, he says. During the studies, university researchers were able to suggest methods and frequency for sampling the water so growers can monitor water quality.

With a nationwide emphasis on food safety, Suslow would like to see more funding backing up the research and monitoring efforts.

“Given what many people are calling for in improvements in our food supply, government is going to have to allocate more resources to regulatory agencies,” says Suslow.