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UC SANTA BARBARA TODAY

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UC Santa Barbara Today is produced three times a year by the Office of Public Affairs, University of California, Santa Barbara, Santa Barbara, CA 93106-2100. Editorial offices: 1124 Cheadle Hall. (805) 893-2191. PublicAffairs.News@ucsb.edu
Published by the Division of Institutional Advancement
John M. Wamam, Vice Chancellor
Students Win Top Honors in Voter Registration Drive

It was billed as the ultimate voter registration drive — campus competing against campus to sign up new student voters as part of a national campaign to register every eligible student in the run-up to the presidential election. And when all the votes were counted, UC Santa Barbara came out on top, leading all institutions entered in this year’s Ultimate College Bowl by signing up a whopping 10,658 new voters. Four other UC campuses were also in the Top 10. The competition was sponsored by (among others) MTV, MySpace, Declare Yourself!, HeadCount, Student PIRGs, Rock the Vote, College Republicans, and the National Constitution Center. First prize in the competition? A free campus concert by the band Death Cab for Cutie.

New Name and Degrees for Feminist Studies

The campus’s highly regarded women’s studies program is now the Department of Feminist Studies. This follows UC approval of a proposal to establish a graduate program in feminist studies offering Master of Arts and Ph.D. degrees as well as doctorates.

“We offer a critical lens into understanding the social, economic, and political life of women and men, analyzing the world through diverse feminist perspectives.”

With nine full-time faculty members and more than 50 core and affiliate faculty members, UCSB’s feminist studies department is one of only two in the UC system and one of only 15 or so at public universities across the country.

“The inauguration of the feminist studies Ph.D. reflects not only the strength of our faculty in this area of scholarship, but also the massive investments we have made in feminist studies throughout the social sciences and humanities at UCSB,” said Melvin Oliver, the SAGE Sara Miller McCune Dean of Social Sciences.

The addition of graduate classes will bolster an already strong program that currently serves about 100 undergraduate majors and hundreds more who enroll in general education and upper division classes. The first graduate students are expected to enroll for fall quarter 2009.

Graduate Housing Complex Gets First Residents

The San Clemente Villages graduate student housing complex opened this fall and is filled to capacity. San Clemente is UCSB’s first housing facility dedicated to single graduate students. It is located on El Colegio at Stadium Road adjacent the west entrance to the campus.

The complex has a total of 973 student beds in 325 fully furnished...
apartments ranging from studios to two- and four-bedroom units. (The project also boasts 1,003 parking spaces!) The apartments are all arranged in several separate “villages” with California place names (e.g. Arrowhead, Castaic). Community buildings provide meeting and study space as well as laundry facilities. The project is being considered by the U.S. Green Building Council for a high rating under its Leadership in Environmental and Energy Design (or LEED) program.

UCSB’s Jesse Bernal Is New Student Regent

Jesse M. Bernal, who is enrolled in the Gevirtz Graduate School of Education, will be the student representative on the UC Board of Regents in 2009-10. His nomination by a Regents’ special committee was approved by the full board in July.

A first-generation college student, Bernal began his graduate studies at UC Santa Barbara in 2005, first in political science and now in education. His areas of emphasis and interest include underrepresented students in higher education, the first-year student experience, student development, and retention.

Bernal said he was honored to be chosen and was looking forward to working with the Regents and the UC community to address budget and educational challenges facing the university and the state. “Now more than ever, California’s future demands a new approach to public investment in higher education, and we must at the same time continue to identify innovative opportunities to increase diversity and keep a UC education affordable,” he said.

Bernal has served as university affairs chair and board member of the UC Student Association and external vice president for statewide affairs for the UCSB Graduate Students Association.

New UC Emphasis on Accountability

Just weeks after taking office in June, UC President Mark Yudof announced a new accountability initiative designed to provide better information to the public and policy makers about the performance of the UC system in a wide range of areas.

“We should be accountable to the legislature, parents, taxpayers, students,” Yudof told the UC Regents at their meeting on the UC Santa Barbara campus in July. “People deserve an honest answer to the question of how you’re doing, and it needs to be backed up by statistical data.”

In addition to providing transparency and public accountability, Yudof told the Regents, an accountability framework would facilitate the university’s strategic planning, decision making, budgeting, and management performance evaluation. He also said it would help focus the Regents on the most important policy issues facing the university.

Two months later, at the September Regents meeting, Yudof presented a draft “accountability framework” for public review and comment. The annual report called for in the draft pulls together 102 different measures of performance in areas such as access and affordability, student success, research impact and funding, faculty diversity and quality, and university finance.

The draft report can be found at www.universityofcalifornia.edu/accountability/. A final version incorporating campus and public comments is to be published in May 2009.

A Move-In Experience!

Who says you can’t get good help these days? Not the parents and students who moved into campus residence halls at the start of the fall quarter. They encountered Chancellor Henry Yang (right) and his wife, Dilling, helping new students unload and transport their belongings to their new campus digs. The Yangs make a habit of taking an active role in move-in weekend, along with scores of student and staff volunteers and, this year, the entire women’s softball team! Just a few days later, freshmen and transfer students took part in the annual New Student Convocation, presided over by David Marshall, dean of humanities and fine arts and executive dean of the College of Letters and Science. A total of 4,387 new freshmen enrolled this fall, the campus’s largest-ever incoming class (by 49 students). One-third of all first-year students were the first in their families to attend college. The entering class had an average high school GPA of 3.84, the highest on record for UC Santa Barbara.

Scoring High Graduation Rates: UC Santa Barbara’s student-athletes are once again rated high nationally, according to the NCAA’s latest Graduation Success Rate Report. The NCAA data showed the Graduation Success Rate for Gaucho student-athletes was 80 percent. The average aggregate national rate for male and female athletes combined was 78 percent. Above, one of UCSB’s 450 Division I student-athletes in competition.

Pinpoints

• The Department of Communication will mark its 25th anniversary in March with a series of events, including a special conference on the role of the media in the presidential campaign and election.

• The campus has adopted a new motto for its far-reaching sustainability efforts: Leave No Footprint Behind. Chancellor Yang recently appointed a committee of faculty, staff, and student members to work on implementing the Campus Sustainability Plan.

• Food, glorious food! The Interdisciplinary Humanities Center is exploring the theme “Food Matters” in a yearlong program of lectures, films, discussions, and presentations. Among topics the series is examining: food production and consumption, the global food crisis, gardens, sustainability, and the cultural history of food.

For more information on these and other campus developments and activities, visit www.ucsb.edu
Funds for Research
Set a New Record
Research support from external sources broke all previous records at UC Santa Barbara last year. A total of $194 million was received from federal and state agencies, corporations, and foundations in fiscal 2008 — up $18 million over the previous year. In the past two years, UCSB has reported a remarkable 22 percent increase in such funding.

Noting that the current level of research funding was more than double that of a decade ago, Chancellor Henry Yang called it “a wonderful testament to the pre-eminence of our faculty and researchers, and the intellectual vitality of our campus.”

In addition to a wide variety of research units, close to 50 academic departments across the disciplines — engineering, the sciences, humanities, social sciences, education, and the arts — were awarded research funds by external agencies last year.

“UCSB researchers are making new discoveries every month on topics from dark matter in the universe to the extinction rate of species,” said Michael Witherell, vice chancellor for research. Although most of the campus’s external research funding comes from federal agencies, that sector was down slightly last year. However, UCSB saw increases in funding from non-federal sources, including private nonprofit foundations and technology companies.

Program Helps Students Address Energy Challenges
A new program funded by the National Science Foundation will enable UC Santa Barbara to offer graduate students deep and broad experience in solving the energy challenges facing the country.

The Conversion of Energy through Molecular Platforms program, or ConvEne, will train a new generation of chemical and materials scientists and engineers to address a broad range of questions in energy conversion using an interdisciplinary and multi-department approach. These future Ph.D.s will acquire the technical skills, environmental awareness, business expertise, and teamwork approaches needed to confront fundamental and applied issues in the generation and conversion of energy in efficient and environmentally sustainable ways. Nearly 20 researchers from a variety of departments and programs will be involved.

Officially known as an Integrative Graduate Education and Research Traineeship, the program is funded by a $3.1 million NSF grant over five years. UCSB will contribute an additional $750,000 in program support. Ram Seshadri, as associate professor of materials and the project’s director, said he expects it “will be an important part of campus efforts focusing attention on research in energy conversion.”

Findings

■ A new nanoscale process created by a team of UCSB scientists will help make computers smaller, faster, and more efficient. The scientists have created, for the first time, a way to make square, nanoscale, chemical patterns on silicon wafers that are between 5 and 20 nanometers thick. The multidisciplinary team’s novel process, called block co-polymer lithography, may be used in the manufacture of integrated circuit chips as early as 2011. Team leader Craig Hawker, materials professor and director of the Materials Research Laboratory, says industry needs more powerful microprocessors using less energy. “If you can shrink all these things down, you can make processors using less energy. ‘If you can shrink all these things down, you get both,’ he said. Five leading manufacturers, including Intel and IBM, supported the research, along with the National Science Foundation. The university has already applied for patents on the new process.

Collision of galaxy clusters

■ An international team of astronomers led by Marusa Bradac, a postdoctoral researcher and Hubble fellow in UCSB’s Department of Physics, has made a stunning discovery. Using NASA’s Chandra X-ray Observatory and Hubble Space Telescope, the scientists captured a powerful collision of galaxy clusters that provides striking evidence for dark matter. Tommaso Treu, an assistant professor of physics, was also involved in the discovery. “It is in our view an important step forward to understanding the properties of the mysterious dark matter,” said Bradac.

■ Conventional vaccines only protect against a limited number of closely related strains, which is why flu vaccines need to be administered every year. Now researchers have detailed the path to creating a vaccine that confers protection against multiple strains of bacteria. Writing in the journal Infection and Immunity, the team — Michael Mahan, a professor of molecular, cellular, and developmental biology; Douglas Heithoff, a project scientist; and three University of Utah colleagues — described how they focused on developing a vaccine against Salmonella, which has 2,500 strains and causes food and blood poisoning. By disarming a “genetic switch,” the researchers developed a vaccine that protects against many strains of Salmonella. The new vaccine stimulates the production of antibodies and immune cells that work together to kill bacteria. The impact on human health may come in the near term. The new vaccine is currently being tested in livestock — the main source of human infection. Funding for the research came from the National Institutes of Health, the Department of Agriculture, and the Mathers Research Foundation.

Pores made by new process

Anchovy from a managed fishery

■ An innovative yet contentious fisheries management strategy called “catch shares” can help reverse the collapse of fisheries in ways that benefit both fishermen and the oceans, according to a groundbreaking study by Christopher Costello, a Bren School economist; Steven Gaines, director of the Marine Science Institute; and John Lynham of the University of Hawaii. They found that while nearly a third of open-access fisheries have collapsed worldwide, the number is only half that for fisheries managed under catch share systems. “When you allocate shares of the catch, then there is an incentive to protect the stock — which reduces collapse,” said Costello. “We saw this across the globe. It’s human nature.” The results of the study are certain to have wide-ranging implications as more fisheries in the United States, Canada, Mexico, and elsewhere consider switching to catch share systems. The research was funded by the Paul G. Allen Family Foundation.

■ A study led by a team of geoographers from UCSB suggests that warming of the Indian Ocean — a direct result of climate change — is to blame for a steep decline in rainfall over the eastern seaboard of Africa, which has serious implications for the region’s food security. The interdisciplinary study revealed that over the past 20 years, rainfall in that part of Africa has declined by as much as 15 percent per year. The study also showed that if the decline continues at its current rate, the...
population of undernourished individuals in the region could increase by more than 50 percent by 2030. The research team included Chris Funk, an associate researcher with the geography department’s Climate Hazards Group, and Joel Michaelsen, a professor of geography, as well as researchers from the U.S. Geological Survey, Scripps Institution of Oceanography, NASA, and the University of Massachusetts, Lowell. The researchers’ findings appeared in the Proceedings of the National Academy of Sciences. The four-year project was funded by the Agency for International Development’s Famine Early Warning System Network, the USGS, NASA’s Precipitation Monitoring Mission, and the National Science Foundation.

Scientists at UCSB and elsewhere have proposed the establishment of a new type of seed bank that would aid in better understanding evolution and climate change. Susan J. Mazer, a professor of ecology, evolution, and marine biology; Steven J. Franks of Fordham University; and other colleagues argued in an article in the journal Bioscience for the collection and storage of the seeds of natural plant populations — at intervals in the future — so that evolutionary responses to changes in climate can be detected. They call their proposal the “Resurrection Initiative.” They said that, in contrast to existing seed banks, which exist primarily for conservation, this collection would be for research that would allow a greater understanding of evolution.

For more information on these and other exciting research developments, visit www.ucsb.edu

‘Modern Homes for Traditional Californians’

The iconic ranch house is the subject of a major research project and exhibition for which the Getty Foundation has awarded the University Art Museum a $140,000 grant. The funds will support the research and planning of a scholarly exhibition titled “The Ranch House: Cliff May’s Designs for Modern Living.”

“The Getty recognizes that great exhibitions come from innovative research,” says Kathryn Kanjo, director of the museum. “This award will allow a team of experts to develop new scholarship on one of California’s most familiar yet understudied residential types — the modern ranch house.”

The exhibition will be on campus in fall 2011 and will travel nationally through 2013. It is part of “Pacific Standard Time: Art in L.A., 1945-1980,” a special initiative of the Getty Foundation and the Getty Research Institute to document and preserve the history of postwar art in the Los Angeles area. The University Art Museum is among 22 museums, libraries, and universities participating in a series of exhibitions scheduled to open between September 2011 and June 2012.

The grant follows an award the museum received from the Getty Foundation last year to begin the process of cataloging and digitizing its vast Architecture and Design Collection. Work on the Cliff May archives will be completed later this year, at which point research will begin on the museum’s traveling exhibition and scholarly publication on his ranch house designs.

A self-taught designer, May blended aspects of California’s Hispanic heritage with the contemporary style and technology of the 1950’s and 60’s to fashion what he called “modern homes for traditional Californians.” The University Art Museum exhibition will explore the impact of the California ranch house on design and daily life in America during that time period and examine the domestic ranch house from its hacienda roots to its status as a global icon of middle-class consumption in the decades following World War II.
It is fair to say that no one has done more to make UCSB an international showcase of global studies than Mark Juergensmeyer. It is also fair to say that no one has done more to provide a balanced, nuanced understanding of the nature of religious violence.

Mark is the director of the Orfalea Center for Global and International Studies. At the time of the first bombing of the World Trade Center in 1993, Mark wrote *The New Cold War: Religious Nationalism Confronts the Secular State*, predicting that with the end of the Cold War, the emerging conflict would be between secularism and religious zealotry. That book — which was listed by the *Washington Post*, the *Los Angeles Times* and the *New York Times* as one of the notable books of the year — proved to be sadly prescient.

In that book, Mark concluded that religious nationalists sought nothing less than an apocalyptic confrontation, a cosmic war with the West — and that we should avoid playing into their hand by elevating them to the status of worthy opponents on the global stage. Needless to say, the Bush administration’s “War on Terror” did exactly the opposite, fueling, rather than containing, religious violence.

In researching and writing his many books — some 20 in number, along with more than 200 articles — Mark showed the qualities that have made him the go-to person for CNN, NBC and CBS, the BBC, National Public Radio, and Fox News.

He is an equal-opportunity student and critic of religious violence, whether it be Islamic, Jewish, Christian, Hindu, or even Buddhist. All religions, he shows, embrace violence when their sacred space is threatened — an argument he makes with great clarity in his 2003 book, *Terror in the Mind of God: The Global Rise of Religious Violence*.

He is also unafraid. He has interviewed some of the world’s scariest men — people who would make anyone’s terrorist list — often on their home turf. Mark has traveled the world, for example flying into Baghdad during the height of sectarian violence, in an airplane that had to spiral downward to avoid being shot out of the sky.

Finally, he somehow maintains a sense of humor throughout it all. He loves his work, loves the challenges, the dangers, and especially loves getting inside the minds of people most of us would prefer to avoid at all costs.

Mark’s publications cover not only religious violence, but also the possibilities for peace, as he shows in the widely read *Gandhi’s Way*. He is a leading scholar in the sociology of religion, serving as editor or co-editor of such weighty tomes as the *Oxford Handbook of Global Religion*, *Religion in Global Civil Society*, and *The Encyclopedia of Global Religions*. His 2006 Stafford Little Lectures at Princeton University, *God and War*, will be soon published by Princeton University Press. He has received numerous fellowships and honors, from the Wilson Center, the Harry Frank Guggenheim Foundation, the U.S. Institute of Peace, and the American Council of Learned Societies, among others. He is the 2003 recipient of the prestigious Grawemeyer Award for contributions to the study of religion, and the 2004 recipient of the Silver Award of the Queen Sofia Center for the Study of Violence in Spain.

— Richard Applebaum
Q. We just passed the seven-year anniversary of the 9/11 attacks. A recent story in USA Today quoted some members of Congress as saying that the U.S. might be spending too much money on anti-terrorism measures. As someone who has documented the rise of religious terrorism around the world, do you think the world is safer now than it was before 9/11?

A. In some ways we are safer, but in many ways less so. Security measures have helped to deter most of the easier acts of public violence, but America’s bellicose posture in the world has helped to promote the anti-American ideologies that foster them. The people I interviewed — scores of religious activists around the world — are still angry about being marginalized in a world buffeted by the forces of globalization. Their confused resentment will continue to fuel a variety of responses, though perhaps less obviously strident ones than the simple acts of terrorism in the past.

In doing research for your most recent book, “Global Rebellion,” and one of your previous books, “Terror in the Mind of God,” you met face-to-face with people all over the world who are directly involved with religious activism and, in some cases, violence. What is your sense of their humanity?

A. A common misconception is that crazy acts of terrorism are perpetrated by crazy people. It would be simpler, and easier to understand, if this were the case. Alas, all of the people I interviewed who were supporters of acts of terrorism or directly involved in perpetrating them, were remarkably bright and socially adept, and appeared to be quite ordinary. It is their world views that are skewed, not their personalities. Mahmud Abuhalima, for instance — who was in prison when I interviewed him, serving time for his role in the 1993 bombing of the World Trade Center — was a gregarious and interesting fellow, and expressed an abiding sense of concern about society and a wish for global peace.

And, when you met with them, did you ever fear for your safety?

The people I interviewed, even those we might regard as dangerous terrorists, were eager to meet me and get their message to the world. So I felt safe in being with them. Finding them, however, could be a difficult matter. There was the time my taxi got lost in Gaza on my way to interviewing Dr. Rantisi, the political head of Hamas, and I had to go to the Islamic University in Gaza City to find the movement’s supporters who could help me locate the address. Imagine a helpless professor from Santa Barbara wandering around a crowd of young Hamas activists asking them directions to the home of their leader. They were Dangerously skeptical — but when they became convinced I was legitimate and was invited to his home as his guest, suddenly I was greeted with open arms.

Despite the attention — both favorable and unfavorable — Islamic activism has received in the last seven years, most Americans still don’t seem to be able to understand what makes the followers of this religion tick. Why? I think most Americans understand ordinary Muslims well enough — most Muslims are just like any ordinary Christian or Jew or Buddhist or Hindu. It’s the jihadi activists who are puzzling. But for that matter, Christian militant extremists like Richard Butler and Timothy McVeigh are pretty scary and puzzling as well, though their dislike of modern society and America’s global power is not that different from the jihadis. The important thing for Americans to know is that the Muslim extremists are as rare in the Islamic world as the Christian extremists are in the United States. Their threat should be taken seriously, but not exaggerated, and certainly not used to condemn innocent Muslims and Christians who live sensible, peaceful lives.

All through history, religion has been at the root of most rebellions. How do the religious activists of today differ from those who resorted to violence to further their causes hundreds of years ago?

Well, though it might appear that “religion has been at the root of most rebellions” throughout history, I don’t think this is the case. Most rebellions have been carried out for political reasons, as a struggle for power or a change of social order, even though sometimes religious ideas and leaders have been involved in them. The same is true today. The global rebellions of religious activism are about social and political issues — America’s dominating role in the Middle East, for instance, or the unsettling effects of globalization — and strident religious language is simply a way of expressing this resentment, frustration, and desire for a different kind of social and political order.

Do you have concerns about sending students in the UCSB Global Studies master’s program, for their internships, into parts of the developing world where they might be exposed to dangerous conditions?

I don’t think anyone should feel shy about traveling anywhere in the world today, since the rewards of travel are enormous — a lifetime of education in a single trip. Though it is true that the perils of travel are many, including terrorism. But I have to tell you that more absent-minded scholars are killed in London each year by not looking both ways when crossing a street full of left-sided trucks and buses than by any act of terrorism. So yes: Be careful of the bombs, but be even more mindful of those left-sided buses.

What’s next for you? Where do you turn now in your dogged pursuit of helping all of us understand how religion, politics, and globalization intersect?

I continue to be interested in the puzzling relationship of religion to violence — I am preparing for publication a series of endowed lectures I gave at Princeton last year on the topic of God and war. But I am also interested in the positive role that religion can play in world affairs and global civil society, as a beacon of tolerance and understanding in a troubled world that is in desperate need of both.

MARK JUERGENSMYER: “MOST REBELLIONS HAVE BEEN CARRIED OUT FOR POLITICAL REASONS.”

— INTERVIEW BY GEORGE FOULSHAM
Octopus Tree. Senegal Date Palm. Montezuma Cypress. These are but a few of the many unusual and prized tree specimens found at UC Santa Barbara. Now, thanks to the Cheadle Center for Biodiversity and Ecological Restoration, more and more visitors as well as members of the campus community are discovering UCSB’s botanically rich and diverse ornamental horticulture. The center’s self-guided nature tours are providing a new way to experience the campus’s astonishing natural beauty.

Santa Barbara’s mild Mediterranean climate provides an opportunity to grow plant species from many varied habitats, and UCSB’s extraordinary living collection includes plants from six continents. A few species are unique to the campus and are found nowhere else in California.

“Each plant has a wonderful story to tell,” says Rachel Alford, project manager of the center’s Campus Flora Project. With the help of her colleagues and former project manager, Bree Belyea, Alford is cataloging UCSB’s plant species and compiling their rich histories for a new, interactive Web site (http://ccber.lifesci.ucsb.edu/collections/flora).

For the first time, the campus’s remarkable horticultural history and preservation efforts — including the notes of the botanical collectors — are accessible to students, educators, and enthusiasts. Already, more than 2,000 campus plants have been identified, mapped, and cataloged.

“Using the site’s interactive map, visitors can design their own botanical tours of UCSB based on specific interests, such as species, fruiting time, or a desire to see red flowering plants in October, for example,” Alford explains.

The self-guided tree tour (there’s a free, illustrated brochure) is the first in a series of Exotic Flora Walking Tours to be produced by the Campus Flora Project, which is funded by a grant from the Eulenia Slosson endowment at UC Davis. Exotic palms and coral trees (Erythrina) — some of the most stunning trees on campus — will be the focus of future tours.
The Cheadle Center for Biological Diversity and Ecological Restoration is the steward for the biologically diverse natural areas of UC Santa Barbara. The university’s unique coastal habitats have become rare in Southern California as a result of increased development.

The center manages more than 238 acres of open space on campus to preserve native plant resources and the biodiversity of the region, including areas being restored after significant human impact. Its extensive natural history collections of botanical and zoological specimens are widely used by UCSB students, researchers, and the public, including biological consultants, government agencies, and K-12 educators and their classes. Educational outreach at the center includes tours and workshops, an award-winning Kids in Nature program, and a free weekly restoration seminar.

A pocket guide, “Native Plants & Habitats of the UCSB Campus,” and beautiful note card collections with photographs of local plants and wildlife taken by staff are available for purchase from the center and the Bookstore. Proceeds help support student internship and restoration programs. The Cheadle Center is funded entirely by grants and philanthropic gifts.

For more information, contact the Cheadle Center at (805) 893-2401 or visit http://ccber.lifesci.ucsb.edu.

Many of the campus’s exotic plants were propagated from seeds or grown from specimens gathered decades ago by UCSB botanists, including the late Vernon I. Cheadle, chancellor from 1962 to 1977, for whom the center is named. He recognized the special opportunity and favorable conditions of this botanically rich coastal environment, says Jennifer Thorsch, the Katherine Essau Director of the Cheadle Center.

Cheadle had a vision of developing the campus into an outdoor classroom and also for creating an environment of great beauty. Today, biology, art, geology, geography, and environmental studies classes make use of the rare plants in UCSB’s landscape. A student in a botanical illustration class, Oriana Connolly, provided the illustration for the brochure’s cover.

The exotic tree tour, which begins and ends at the Visitor Center, is an hour-long loop. The brochure’s map identifies the location of 11 species. Each description provides the common name, species, origin, history, and cultural use.

For example, the dawn redwood (Metasequoia glyptostroboides), near South Hall, “was originally described from fossil specimens and thought to be extinct for millions of years until living specimens were found in China in 1944. In 1947, a botanical expedition to China brought back seeds and later distributed living plants to various U.S. botanical gardens.”

Other trees on the tour include African tulip and cork oak trees. Some of the oldest trees on campus are the massive windrow of Tasmanian blue gum (Eucalyptus globulus) next to Noble Hall.

Copies of the Exotic Flora Walking Tour are available from the UCSB Visitor Center, the Bookstore, and the Cheadle Center, which is located in the Harder Stadium Building near Storke Field. To download a copy of the campus flora brochure or design your own tour, visit: http://ccber.lifesci.ucsb.edu/collections/flora. A Walking Tour of the UCSB Campus Lagoon is available at: http://ccber.lifesci.ucsb.edu/education.
An "average" high school graduate earns $290,000 more over a lifetime – and pays $100,000 more in federal, state, and local taxes – than a high school dropout.

Between 26 percent and 35 percent of all teenagers in California today are high school dropouts.

One of every three students who dropped out of 10th grade in 2004 was doing nothing four years later — neither going to school nor working.

The problem costs the state's taxpayers $46.4 billion annually.

Those are just a few of the findings of the California Dropout Research Project, a groundbreaking study headed by Professor Russell Rumberger of the Gevirtz Graduate School of Education that has produced 38 reports thus far. "We've had lots of great feedback," says Rumberger. "And that's been very satisfying, translating research into these formats anyone can understand."

Those formats include four-page policy briefs written for easy consumption by busy journalists or political staff –ers. Rumberger says he learned just how important it was "to repeat ideas over multiple forums." He wrote op-ed articles for newspapers, spoke to legislative committees in Sacramento, and lobbied groups like the California Mayors Education Roundtable.

The project's work is guided by a strong policy committee, whose members include Lorraine McDonnell, a UCSB professor of political science, and State Senator Darrell Steinberg, a Sacramento Democrat who chairs the Senate Select Committee on High School Graduation. "Some people told me that if you can get any of your recommendations into a bill, you've accomplished something," says Rumberger. "We helped create two bills."

The project, which is affiliated with the UC Linguistic Minority Research Institute, was funded by some heavy hitters of private philanthropy: the Bill and Melinda Gates Foundation, the William and Flora Hewlett Foundation, the James Irvine Foundation, and the Walter S. Johnson Foundation.

"The project has done a great job of deepening our understanding of California's high school dropout problem," says Anne Stanton, Youth Program Director of the Irvine Foundation. "By continuing to increase the visibility of our dropout crisis, and producing research that informs and engages policymakers and educators, CDRP is helping the state develop meaningful solutions to address the problem."

The project's final report offers recommendations that the state, districts, and schools should adopt to help solve the crisis (see accompanying box). "It's not just about changing policy," says Rumberger. "It's really about changing practice, and policy and practice don't always connect."

His greatest hope is that some school districts will volunteer to try new approaches to the problem. "We want to create 'lighthouse districts' to try new innovations," Rumberger explains. "We don't want to go statewide with anything until we've tried it, collected data, and then either developed or changed the ideas."

Rumberger has just received additional funding from the Irvine and Johnson Foundations to support the project for another year. He wants to do more to inform policy makers and the public about the nature of — and potential solutions to — the dropout crisis. One possibility: a statewide summit.

"The real test is what bills get introduced in the next cycle," he says. "I'm hopeful we can get some more things going."
Minds Over Matter

PHYSICISTS PLAY KEY ROLE IN ONE OF SCIENCE’S BIGGEST EXPERIMENTS

By George Foulsham
Some 300 feet below the Earth’s surface, in a circular tunnel so extensive that it travels from Switzerland to France and back again, scientists at the Large Hadron Collider are embarking on a 15-year quest to try to answer fundamental questions about the universe.

A contingent of more than 40 faculty members, graduate students, postdoctoral researchers, engineers, technicians, and undergraduates from UC Santa Barbara have worked for eight years to help construct the experimental apparatus, now in place at the European Organization for Nuclear Research (CERN) in Switzerland.

The startup of the LHC in September, when the first beams of protons were fired, marked a milestone for the campus’s particle physics program. The group has played a key role in constructing one of four major experiments now in place — the Compact Muon Solenoid (CMS), a complex array of instruments for detecting subatomic particles. The device weighs more than 12,000 tons and is as tall as a four-story building.

Much is at stake with the LHC, the world’s largest particle accelerator. It represents the start of a scientific program that will address some of the most pressing questions in particle physics and cosmology.

“CMS is a powerful and versatile detector, which can be used to perform many different experiments,” explains David Stuart, a UCSB physics professor and one of the key members of the LHC/CMS team. Noting that high-energy collisions can create subatomic particles from energy, Stuart adds, “If we are lucky, we
may discover particles that would explain the dark matter inferred by astrophysicists from observations of galactic motions. This would be really exciting."

For years, particle physicists have been searching for a deep understanding of matter and energy, including an explanation for the origin of mass, which could be found if physicists are able to discover the so-called "Higgs boson," the particle that causes other particles to have mass. Other theorists have speculated that the LHC could even reveal new spatial dimensions with properties vastly different from those with which we are familiar.

"This is a historic undertaking, and it is great to be part of it," says Joseph Incandela, a member of the LHC/CMS team. "We are working with some of the top particle physicists of our era to prepare for what we might see. The range of possibilities is broad, but the most incredible aspect of this program is that whatever we see will be very important to our understanding of the basic forces of nature."

Just a week after the first beams were circulated, as the last of the eight LHC sectors was being tested, there was a problem with the collider's magnet couplings that resulted in a helium leak into the LHC tunnel. Testing of the magnets was expected to take several weeks and, since the LHC was scheduled to shut down for routine maintenance in mid-November, it's now expected that there will be no beams circulated until late March/early April 2009.

"It was very exciting watching the historic moment when they first circulated beams around the ring," said Steven Giddings, a UCSB physics professor who co-authored a well-publicized paper on the safety of the collider. Giddings's paper addressed concerns that were raised by some about whether the proton collisions might create black holes that would devour the Earth. According to Giddings's research, that will not happen. But, like other scientists, he's not surprised that a huge undertaking like the LHC has experienced a minor setback so soon after its launch.

"It's obviously been a disappointment to see the subsequent issues with the magnet couplings, but this is an incredibly complex machine and patience is called for," Giddings says. "Next spring we hope they'll be back on track and we'll start seeing some fascinating new physics."

In addition to Stuart and Incandela, the UCSB collider team includes professors Claudio Compagnari and Jeffrey Richman. Like Stuart, they have been shuttling back and forth between Santa Barbara and Switzerland. Incandela, however, has been living in Switzerland for the past year, shepherding the CMS experiment as deputy physics coordinator. The faculty members are unanimous in their praise for CERN's monumental effort in building the LHC.

UC Santa Barbara's initial role in the CMS experiment was to build part of the particle tracking system, which measures the paths of particles produced in the proton-proton collisions. By combining the information from all parts of the CMS detector, scientists can reconstruct an electronic image of what happens in each collision.

According to Incandela, UCSB delivered 2.5 million channels of particle detectors, which were meticulously constructed in cleanrooms in the university's physics department. The detectors were of "extremely high quality," Incandela says, noting a failure rate of only 0.02 percent. "Our group then helped assemble and test the detectors at CERN."

CMS is a huge project involving thousands of scientists from all over the world. Many U.S. universities have contributed time and staff to CMS and other LHC experiments. UCSB scientists and other staff members say they are proud to have played a leading role in the construction of the detector's tracking system. One-third of this enormous system was assembled and tested on campus. The high-energy physics faculty members say that the contributions of many UCSB students and staff over the past eight years were essential. "I think it's pretty extraordinary what the group has done," says Richman.

"This is a fantastic educational opportunity for our students," Richman adds. Now that construction of the detector is complete, the focus of the UCSB group has shifted to preparations for analyzing the vast quantity of data that will start to pour out of the detector sometime next year. Eventually, about 1 billion collisions per second will be electronically imaged by the detector. Of these, several hundred images per second will be recorded for detailed study.

The UCSB group is funded primarily by the U.S. Department of Energy, with additional support from the National Science Foundation. "The university helps us in many ways, but the main funding for the group's operations is provided by the Department of Energy's Office of Science," Richman says. "They have treated us extremely well and we appreciate it."

Until now, the world's biggest accelerator has been at Fermi National Accelerator Laboratory, also known as Fermilab, near Chicago. Michael Witherell, UCSB's vice chancellor for research, was director of Fermilab from 1999 to 2005, when he returned to lead the campus's research administration.

"I am anticipating great discoveries from CMS," Witherell says. "It is remarkable how many important contributions our faculty and students have already made to this historic experiment."

Witherell, who has spent most of his life doing particle physics research, puts the massive international experiment in proper perspective: "This is frontier science on a grand international scale."
Territorial disputes have dominated relations between the people of Guatemala and Belize for more than a century. Now, however, a section of rain forest that surrounds the ancient Maya city of El Pilar might finally bring the two countries together. If all goes according to a plan by UC Santa Barbara archaeologist Anabel Ford, the 5,000-acre El Pilar Archaeological Reserve for Maya Flora and Fauna, which straddles the border of the two countries, will become the world’s first archaeological peace park.

“The site is a binational space, and building collaborative ties is critical to realize the dream of this park,” says Ford, who directs the MesoAmerican Research Center. “It’s highly charged politically.”

The project took a major step forward this fall when Chancellor Henry Yang, along with Ford and others from the university, joined Guatemalan officials in signing a Memorandum of Understanding that establishes a collaborative research program at El Pilar and launches the El Pilar Peace Park Initiative. The agreement mirrors one between the campus and Belize that was signed in 2005.

“Having the university establish a strong collaborative tie with Guatemala is very important,” says Ford.

The signing of the agreement also marked the 25th anniversary of Ford’s discovery of El Pilar. The research program and peace park initiative are the culmination of her efforts to reunite the ancient center that lies in both Guatemala and Belize. Currently, the site is protected in both countries as a natural and cultural resource. Each country has a management plan for its own section, but Ford advocates managing the site as one unit.

At its most vibrant — the period from A.D. 600 to 900 — El Pilar had a population of more than 20,000 people who lived in a mosaic landscape of city homes and gardens. This contrasted with areas of forest reserve and agricultural fields, such as present-day traditional Maya forest gardens.

Research at El Pilar focuses not just on temples, plazas, and palaces, but also on the common Maya people. It examines the continuing Maya farming tradition of forest gardening, a conservation strategy sustaining biodiversity, heritage seed banks, and cultural traditions of the Maya people and the Maya forest.

Ford is working with the forest gardeners at El Pilar to restore their living environment and establish a new kind of eco-tourism based on the traditional and sustainable practice of forest gardening.

More information about El Pilar is on the Web at www.marc.ucsb.edu


**THE CAMPAIGN TRAIL**

**Highest Totals Ever for Private Giving**

Alumni and friends demonstrated their strong commitment to the excellence of the campus by contributing a record $81.4 million in philanthropic gifts and pledges to The Campaign for UC Santa Barbara during 2007-08.

In terms of private giving, the fiscal year that ended June 30 was the campus’s most successful ever, exceeding the fund-raising achievement of the previous year by more than $10.5 million. With this extraordinary show of support, the campus has passed the $500 million milestone in The Campaign for UC Santa Barbara. UCSB received a total of 19,139 individual gifts last year.

“I am grateful for the resounding generosity of UCSB’s devoted alumni and friends and for the tireless efforts of our UC Santa Barbara Foundation Trustees and of all our colleagues in helping our campaign,” said Chancellor Henry Yang. “The overwhelming spirit of unity that the campaign continues to engender reflects the forging of a shared vision and an enduring partnership among the entire UCSB family.”

UCSB’s endowment — estimated at $191 million at the close of the fiscal year — has grown by $105 million since the campaign began in 2000.

During 2007-08, philanthropic gifts and grants to UCSB for teaching, research, students, and academic programs were distributed across the disciplines. Over all, funding for scholarly research increased by nearly $19 million to a record $31.7 million last year. Student support rose by $2.5 million to $6.2 million. Unrestricted gifts for campus priorities from alumni, parents, and friends increased by $500,000 to $2.3 million.

Corporate and foundation support increased by more than $20 million to nearly $56.8 million.

With less than one-third of UCSB’s operating budget provided by Contributions From Parents Grow in Number, Value

Donations from parents of UC Santa Barbara students are growing in number and importance. During the 2008 fiscal year, gifts from parents totaled $17.7 million, including $3.3 million in cash and pledges and a major gift-in-kind to the library (see back cover). A total of 4,548 gifts were received from 3,384 parent donors.

Most donations from parents come in response to direct-mail solicitations and phone calls from students on behalf of the UC Santa Barbara Parents Fund.

The current chair of the Parents Fund, Sarah Argyropoulos, spoke about the program’s mission and importance at the Chancellor’s Breakfast during Parents and Family Weekend on campus in October. She noted that many wonderful opportunities for students at UC Santa Barbara have come about as a result of the involvement and generosity of parents. A trustee of the UC Santa Barbara Foundation, Ms. Argyropoulos and her husband, James, are the parents of two sons, one of them a current UCSB student. In 2000, with a $500,000 donation to the College of Letters and Science, the couple established an endowed chair in Hellenic Studies to help ensure that knowledge of Greek culture — past and present — would be preserved and shared with future generations.

A new Web site for the UC Santa Barbara Parents Fund will make its debut soon. The fund’s office can be reached at (805) 893-5254, or by e-mail: parent.outreach@ia.ucsb.edu

**Benefactions**

- **Game! Set! Match!** The campus’s Intercollegiate Athletics program has received its largest gift ever — a $2.2 million contribution to establish an endowed scholarship fund for men’s and women’s tennis. The gift, from a donor who wished to remain anonymous, will enable UCSB to attract more outstanding student athletes. The men’s tennis team and the women’s team have each won six Big West Championships.

- **The Kresge Foundation** has awarded a $500,000 challenge grant to the Gevirtz Graduate School of Education. The award is to help complete capital fundraising for the new facility (now under construction) that will house the school and its clinical outreach programs. The challenge requires the school to raise an additional $1,691,993 for this purpose by September 1, 2009. “We are very grateful to the Kresge Foundation for their confidence in our mission to make a difference in lives of Californians,” says Gevirtz School Dean Jane Close Conoley. The Kresge grant and the fund-raising campaign coincide with the Gevirtz School’s year-long anniversary celebration of “100 years of preparing educators.”

- **The Bernard Osher Foundation**, of San Francisco, has established a $1 million endowment to provide scholarships for California community college students who transfer to UC Santa Barbara.

**Thank You**

A gift acknowledgment card

**Gateway to Learning:** When we last reported to you on the campus’s new East Entrance, construction was nearing completion. Now it’s done. An official ceremony to dedicate the Henley Gate (above), as well as nearby Steck Circle and Kirby Crossing — all made possible by major private gifts — was held in mid-summer. At the ceremony, alumnus Jeff Henley noted that the new gate was not just an entrance but also “a gateway to learning.”

**UC Santa Barbara Parents Fund**

For more information about The Campaign for UC Santa Barbara, or to make a gift, call (805) 893-4772 or, toll free, (800) 641-1204. E-mail is campaign@ucsb.edu.
Inconvenient Truths

Global warming is one the world’s most pressing issues, but the phenomenon of climate change is not specific to the 21st century. A new book by anthropologist Brian Fagan takes a look at the global effects of climate change that occurred during the Medieval Warm Period and examines how subtle shifts in the environment had far-reaching effects on human existence.

In The Great Warming: Climate Change and the Rise and Fall of Civilizations (Bloomsbury Press), Fagan, a professor emeritus of anthropology, focuses on the period from the 10th to 15th centuries when the earth experienced a rise in average temperature that changed the climate worldwide.

Some civilizations, including those in Western Europe and the Norse and Inuit of the North Atlantic, flourished as long summers brought bountiful crops, population growth, and a burgeoning cultural scene. But other long-established societies, such as the Maya and Indians of the American southwest, collapsed from prolonged periods of drought.

Fagan describes the ways in which different civilizations adapted to centuries of irregular warming. Mayan people, for example, created huge water storage facilities while the Chimú lords of coastal Peru designed sophisticated irrigation systems. However, despite their efforts, they could not withstand the repeated multyear droughts, which, according to Fagan, constitute the most dangerous element of global warming.

"When I began writing the book, I expected to focus on Europe," says Fagan, whose books on the interaction of climate and human society have established him as a leading authority on the subject. "But as I looked further afield I realized that, for a lot of the world, the Medieval Warm Period meant savage issues related to drought. With so much of the world currently suffering from the effects of drought, this struck me as a neglected problem."

Author! Author!

Poet and author Pat Mora, a champion of children’s literacy programs and the author of several award-winning children’s books, is the recipient of the 2008 Luis Leal Award for Distinction in Chicano/Latino Literature.

A native of El Paso, Mora is the founder of the family literacy initiative El día de los niños/El día de los libros (Children’s Day/Book Day). Known as Dia, the event emphasizes the importance of advocating literacy for children of all linguistic and cultural backgrounds. Her children’s books include English and Spanish editions of Grandparents and the forthcoming Wiggling Pockets/Los bolsillos se menean.

In her adult fiction and non-fiction, Mora writes about the Mexican American experience not only as a contemporary phenomenon but also as the culmination of centuries-old values, languages, and customs. Her books include House of Houses, a family memoir told in the voices of her ancestors, and several collections of poetry.

"Pat Mora is a truly exceptional writer who embodies the very essence of the Leal Award — recognized excellence and commitment to one’s community," said Mario T. García, professor of Chicana and Chicano studies and history and organizer of the annual award.

Luis Leal is a professor of Chicana and Chicano Studies who is internationally recognized as one of the leading scholars of Chicano and Latino literature. The author of more than 45 books and 400 scholarly articles, he remains a prolific researcher and writer. The campus celebrated his 100th birthday in October 2007 with a two-day conference in his honor.

Human Nature

What happened along the evolutionary trail to make humans so unique a species? According to neuroscientist Michael S. Gazzaniga, the answer lies in our innate sociability. In Human: The Science Behind What Makes Us Unique (Ecco/HarperCollins Publishers), he examines how and why the thinking, sentient beings we are today differ so much from our predecessors.

In his book, Gazzaniga, a professor of psychology and director of the SAGE Center for the Study of the Mind, turns his attention to the highly social nature of humans and the mystery of what makes us who we are. He studies issues such as what makes human brains unique, the importance of language and art in defining the human condition, the nature of human consciousness, and even artificial intelligence.

“Even though we have all these connections with the biologic world from which we came, and we have in some instances similar mental structures, we are hugely different,” he writes. “While most of our genes and brain architecture are held in common with animals, there are always differences to be found. And while we can use lathes to mill fine jewelry, and chimpanzees can use stones to crack open nuts, the differences are light-years apart.”

Gazzaniga’s earlier books include The Cognitive Neurosciences and The Ethical Brain: The Science of Our Moral Dilemmas.

Footnotes

In The Comanche Empire (Yale University Press), Pekka Hämäläinen, an assistant professor of history, uncovers the lost story of the Comanche Indians, who built a powerful empire that dominated the fiercely contested lands of the American Southwest, the southern Great Plains, and northern Mexico. The empire eclipsed its various European rivals in military prowess, political prestige, economic power, commercial reach, and cultural influence. He offers two intertwined stories. The first examines cross-cultural relations in the region from the perspective of the Comanches, while the second looks at the events from the perspective of the Spaniards, Mexicans, Apaches, and others who variously competed and cooperated with the Comanches but ultimately lost out in the Comanche-controlled world.


Andrea Estrada
The $81.4 million raised by The Campaign for UC Santa Barbara last year included a record $2.3 million in unrestricted support donated by alumni, parents, and friends through the UCSB Annual Fund. Our students would say that your generosity is totally awesome. We couldn’t agree more. For all you do for UC Santa Barbara, we offer a sincere and heartfelt Thank You.
The View From Above

Remember those coffee-table books with mile-high views of some of your favorite cities? Above San Francisco? Above Washington?

Well now UC Santa Barbara has its own "above" collection. Call it "Above Almost Everywhere," or at least almost everywhere in the United States. The Map and Imagery Laboratory in Davidson Library is the recipient of an amazing gift — a collection of more than 370,000 aerial images of 65 major U.S. metropolitan areas that is unparalleled in its size, focus, and resolution. The color-stereo images provide clear detail down to six inches off the ground. The photos were taken by Hauts-Monts, Inc. between 1999 (two years prior to 9/11) and 2002. The archive, called the Citipix Collection and valued at $14.3 million, consists of original film negatives.

"This is a historic snapshot of the urban history of the United States at the turn of the century that includes major ports of entry, research areas, and coastal services," says Larry Carver, director of the Map and Imagery Laboratory. Because aerial photographs are shot straight down, they are extremely accurate. As a landscape is altered over time, mosaics of such photographs become an important research tool and resource. Calling the archive "invaluable," Carver says no other comparable collection of aerial photography exists for this particular time period.

Pacific Western Aerial Surveys of Santa Barbara and its owners, UCSB parents Michael Kambitsch and his wife, Susan Lord, donated the collection.

Brenda Johnson, the university librarian, says this latest addition will enhance the distinction of UCSB's imagery collection, already one of the most extensive in American higher education. "We anticipate heavy use of these images by faculty, corporations, and government agencies," she says. The Map and Imagery Laboratory, which is also home to the Alexandria Digital Library, advances the use of spatial data and provides technologies for integrating diverse information formats.