

UC SANTA CRUZ

WINTER 2002

R E V I E W



**Alumnus Kent Nagano,
principal conductor of
the Los Angeles Opera**

THE BRILLIANT CAREER OF MAESTRO NAGANO | UCSC'S RESPONSE TO 9/11 | A NEW APPROACH TO STATISTICS

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UC Santa Cruz

REVIEW

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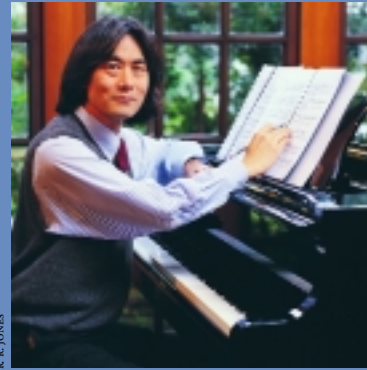
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R. R. JONES



R. R. JONES



TOM VAN DYKE



RECK RIDGEWAY

During his many years as one of the world's most respected conductors, alumnus Kent Nagano has remained passionate about the intersection of music and community—and his love for both will serve him well in his new position as principal conductor of the Los Angeles Opera. **8**

Only days after the September 11 terrorist attacks, thousands of students arrived on campus for a quarter that—due to the resourcefulness of faculty and staff—provided much-needed support and opportunities to understand the crisis. **14**

The campus's newly forming Department of Applied Mathematics and Statistics is attracting faculty like Associate Professor Neil Balmforth, whose work on fluid dynamics and turbulence has applications in the fields of astrophysics, geophysics, and oceanography. **18**

A creative writing course in his first quarter at UCSC led Gordon Wilisio to a life of high adventure—and a career as a photographer whose work has appeared several times in National Geographic, as well as in a variety of outdoor-adventure magazines. **25**

FROM THE CHANCELLOR

BY M.R.C. GREENWOOD

LIKE ALL OF YOU, I was shocked and saddened by the events of September 11. These many months later, it is still difficult to fathom the scale of the attacks and the devastating loss of life.

As the crisis unfolded, the questions being asked at UCSC were being asked everywhere: What had motivated the terrorists to inflict such damage? How could people decide to end the lives of so many innocent civilians in the name of their cause? What should this country's response be, and would it prompt future attacks?

On campus, those mid-September days were made all the more challenging by our academic calendar: In just a few short days after the attacks, we would be welcoming new and returning students to UCSC for the start of fall quarter.

As chancellor, I asked our faculty and staff to work together to help our students get through this difficult time. As it turned out, my colleagues' overwhelming response to the crisis aided more than our students: It proved to be the balm that enabled the entire campus community to begin the process of healing.

The article that begins on page 14 describes only a few of those post-September 11 activities: the counseling and other support services that helped our students cope with the disbelief and disorientation that were understandable after the attacks; the creatively organized lectures, discussion groups, and other activities that shed light on the many aspects of this complicated crisis; and the utter generosity that supported



R. R. JONES

I asked our faculty and staff to work together to help our students get through this difficult time. My colleagues' overwhelming response to the crisis proved to be the balm that enabled the entire campus community to begin the process of healing.

people whose suffering was far greater than ours.

One of the New York victims was Atsushi Shiratori, a 1989 graduate of our Merrill College, who lost his life in the New York City attacks; Atsushi worked at Cantor Fitzgerald, which had offices on the top floors of the World Trade Center.

We also soon learned that another member of the UCSC family, Catherine Tenorio Miller (Kresge College '92), suffered a tremendous loss on September 11. She and her husband David's 21-year-old daughter, Nicole Carol Miller, was on the flight that crashed in Pennsylvania.

This issue's cover story (page 8) features UCSC alumnus Kent Nagano (Porter College '74), whose debut as principal conductor of the Los Angeles Opera came only days after the terrorist attacks. With airlines temporarily grounded, Kent was barely able to make it to L.A. in time to conduct the long-scheduled performance of *Lohengrin*.

Those in attendance that day were thankful he had made it. A moment of silence for the victims and a moving rendition of our national anthem left no eyes dry in the opera house. And, in the wake of September 11, the artistry of *Lohengrin* was an important reminder that so much about the human spirit is still worth celebrating.

A handwritten signature in blue ink that reads "MRC Greenwood".

M.R.C. GREENWOOD
Chancellor



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Research studies will be conducted at San Francisco's Exploratorium, the world-renowned "hands-on" museum of science, art, and human perception.

UCSC joins international effort to improve science education

TAKING A CUE FROM the public's enthusiastic response to "informal science centers" such as science and natural history museums, zoos, and aquaria, educators in the United States and England are launching an ambitious collaboration to improve science teaching and learning.

The Exploratorium, the world-renowned "hands-on" museum of science, art, and human perception in San

Francisco; UCSC; and King's College London are teaming up to form the Center for Informal Learning and Schools (CILS), which will integrate the best of the informal science learning with the formal learning that takes place in schools. The project is being funded by a \$10.8 million grant from the National Science Foundation (NSF).

At UCSC, the coprincipal investigators are Lynda Goff, vice provost and dean of undergraduate education, and Joyce Justus, chair of the Education Department.

CILS aims to prepare leaders in informal science education, conduct research, support students pursuing advanced degrees in science education, and provide professional development opportunities for



DOMINIC TURNER

Representatives of the three participating institutions and lead staff for the center gathered in London in December for a reception commemorating the program launch.

science museum staff. The center, headquartered at the Exploratorium, will begin operation this summer.

Participating researchers and graduate students will examine innovative methods of science teaching. CILS is one of only seven new centers funded by NSF as part of its growing effort to strengthen science in schools.

Chronicling the horrors of the Jim Crow era

FOR HISTORIANS, few projects offer the professional or personal satisfaction that comes with gathering and preserving little-known stories. And so UCSC's Paul Ortiz feels particularly honored to have been part of a major project to record the oral histories of African Americans who lived under Jim Crow in the segregated South.

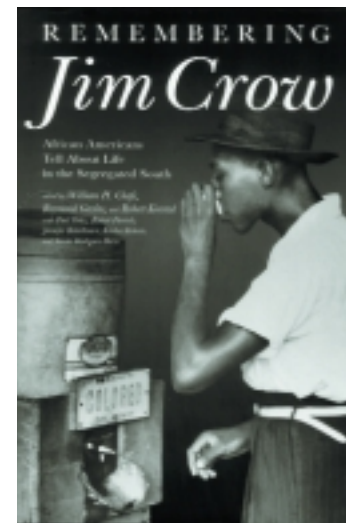
Ortiz, an assistant professor of community studies, was research coordinator for the oral history project and conducted dozens of the field interviews. The highlights of those oral histories have been compiled in the important new book *Remembering Jim Crow: African Americans Tell about Life in the Segregated South*.

The book, illustrated with 50 rare segregation-era photographs, is accompanied by two CDs: One contains excerpts of the original inter-

views, and the second is a major radio documentary produced by American RadioWorks.

The book's firsthand accounts of living under Jim Crow convey the hardship and suffering experienced by African Americans in the United States from the end of the 19th century into the 1960s.

Participants describe the horrors of lynching, harassment, and sexual exploitation, and they reveal the resourcefulness with which they fought back.



COVER PHOTO: BETTMANN/CORBIS

UCSC ranked second in physical sciences

UCSC IS THE SECOND most influential university in the world in physical sciences, according to rankings of research universities and other institutions published by the British newspaper the *Guardian*. The rankings are based on an analysis of 1994–98 scholarly publications.

Data for the study were provided by the Institute for Scientific Information (ISI), based in Philadelphia. ISI

bases its analyses on the tradition of scholarly citations. When researchers publish a journal article, they must cite previous papers by other authors that set the stage for their work. Generally, a paper garners more citations when scientists accept the work as important and well done.

The physical sciences include chemistry, physics, geosciences, mathematics, and engineering. The top-ranked institution is Scripps Research Institute. Rockefeller, Harvard, and Brandeis Universities round out the top five.



LOUISE GILMORE/POSTALHUB

Quarry Plaza, the name given to the area of the campus where the Bay Tree Bookstore and Whole Earth Restaurant have long thrived, made its official debut in an October celebration that showcased the new, expanded book-

store building (right) and the newly built Graduate Student Commons (left). The Commons is not only providing a base for graduate students, its ground floor is serving as the site for a newly refurbished Whole Earth Restaurant.

Grant creates center to study supernova

MASSIVE EXPLODING STARS called supernovae are among the most spectacular phenomena in the universe. Astrophysicists, however, are still struggling to work out the mechanics of these awesome explosions. A team of astrophysicists and computer scientists at UCSC and three other institutions is now tackling the problem with support from a \$2 million, three-year grant from the Department of Energy.

The grant establishes a Center for Supernova Research, headquartered at UCSC. Stanford Woosley, professor and chair of astronomy and astrophysics, is principal investigator and director of the new center. The other

partner institutions are the University of Arizona and the Lawrence Livermore and Los Alamos National Laboratories.

“The goal is to build realistic numerical models of exploding stars, using the fastest computers available to simulate the explosions,” Woosley said.

“Almost all of modern physics comes to bear in a supernova explosion—radiation transport, fluid dynamics, thermonuclear fusion.”

A supernova occurs when the core of a star collapses under the gravitational force of its own mass. This can happen when mass is transferred between two closely orbiting

stars, resulting in what is known as a type 1 supernova. A type 2 supernova occurs at the end of the lifetime of a massive star when its nuclear fuel is exhausted.



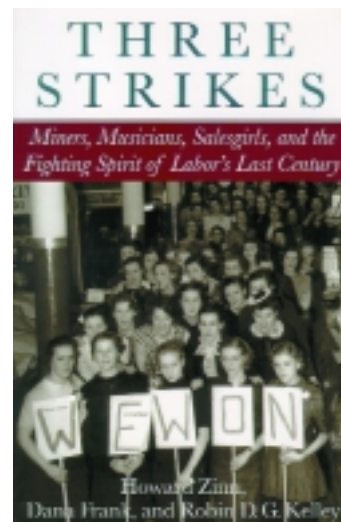
This simulation, generated by researchers at Lawrence Livermore Lab, depicts a type 1a supernova explosion.

Struggles that paved way for Labor Day

MOST WORKING PEOPLE regard Labor Day as “just another day off,” laments labor historian Dana Frank, coauthor of a new book that tells the story of three compelling labor struggles in the United States.

“Few people really understand how much they owe the labor movement,” said Frank, a professor of American studies at UCSC. “It’s like my bumper sticker says, the labor movement are the folks who brought you the weekend.”

In the new book *Three Strikes: Miners, Musicians, Salesgirls, and the Fighting Spirit of Labor’s Last Century*, Frank and coauthors Howard Zinn and Robin D. G. Kelley capture



WALTER P. REUTHER LIBRARY, WAYNE STATE UNIVERSITY

the drama and grief of labor clashes that pit corporations against union organizers, chain stores against low-wage sales clerks, and new technologies against displaced workers. “We chose stories that would resonate with what’s going on today,” said Frank.

Deep-diving sea lions pushed to limit

A NEW STUDY may help explain why certain species of marine mammals seem particularly vulnerable to changes in their food supply.

Researchers have found that some deep-diving sea lions already work so hard searching for food that their ability to increase the duration of their dives is limited. As a result, they may be unable to cope with food shortages or other environmental stresses.

“They are really pushing their physiological capabilities,” said Daniel Costa, UCSC professor of ecology and evolutionary biology.

Costa and his coauthors, Nicholas Gales of the

Australian Antarctic Division and Michael Goebel of the National Oceanic and Atmospheric Administration, published their findings in the July issue of *Comparative Biochemistry and Physiology*.



DANIEL COSTA

A deep-diving Australian sea lion

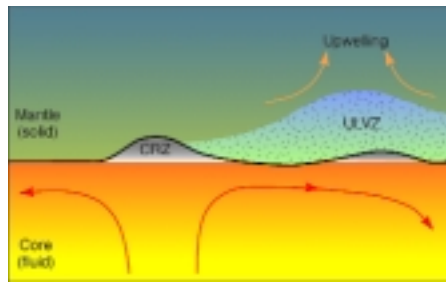
The researchers looked at three species of marine mammals: the Antarctic fur seal, the Australian sea lion, and the New Zealand sea lion. The fur seal population is thriving, but the two sea lion populations are both struggling.

Seismic data sheds new light on Earth's internal structure

ABOUT 1,800 MILES beneath the surface, Earth's internal structure changes abruptly where the solid rock of the mantle meets the swirling molten iron of the outer core. But the boundary between the core and the mantle may not be as sharply defined as scientists once thought.

By analyzing earthquake waves that bounce off the core-mantle boundary, UCSC researchers have found evidence of a thin zone where the outermost core is more solid than fluid.

The existence of such "core-rigidity zones"—small patches of rigid material within the fluid outer core—has been suggested before, but this report marks the first time scientists have



Below us: In this diagram of a cross-section through the core-mantle boundary, a core-rigidity zone lies on the fluid core side of the boundary and an ultra-low velocity zone lies on the solid mantle side.

actually detected one.

Postdoctoral researcher Sebastian Rost and associate professor of Earth sciences Justin Revenaugh published their findings in the November 30 issue of the journal *Science*.

The nature of the core-mantle boundary is important because researchers now think it influences phenomena ranging from the behavior of Earth's

magnetic field to the massive plumes of hot rock that rise through the mantle and erupt on the surface at volcanic hot spots such as Hawaii.

The interaction of core-rigidity zones with the magnetic field, for example, may help explain the slow wobbling of Earth's rotation axis, called nutation,

Revenaugh said.

"Studies of Earth's nutation provided one line of evidence that got people thinking there might be these little patches of rigid material in the outer core," he said.

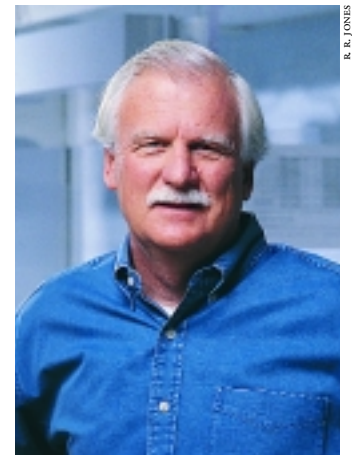
"So previous evidence was consistent with that idea, but now we have evidence that cannot be explained any other way."

Mini refrigerators help chips keep their cool

TINY REFRIGERATORS may soon be deposited directly onto computer chips to cool their overheated circuits. A team of researchers from several institutions has found a way to grow minuscule cooling devices on top of chips, placing them in the exact spots where they are most needed. Heat generated by a chip's electric currents is one of the main obstacles to making computer components smaller and speedier.

"As computers get faster, they get hotter, to the point where fans don't work to cool them anymore," said Ali Shakouri, an associate professor of electrical engineering at UCSC and technical director of the team that has built the new coolers.

The temperature of a Pentium chip can soar to nearly 200 degrees Fahrenheit when it is operating, Shakouri said.



Russell Flegal

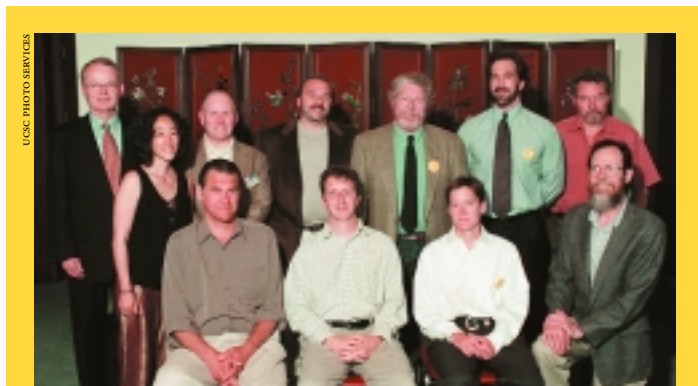
Analyzing the toxicology of trace metals

THE W. M. KECK Foundation of Los Angeles has awarded a grant of \$1 million to UCSC to support ongoing research on the environmental toxicology of trace metals. The grant will enable the campus to purchase state-of-the-art equipment for conducting trace metal research, an area in which UCSC has been a world leader for many years.

Trace metals include toxic elements such as lead and mercury, as well as biologically essential elements, such as copper and manganese, that can be toxic at high concentrations. The new instrumentation obtained with the grant will enable UCSC researchers to continue to make major advances in understanding the global cycling of trace metals in the environment and their effects on biological systems.

Faculty, researchers, and students in the Departments of Environmental Toxicology, Chemistry and Biochemistry, Ocean Sciences, Earth Sciences, Ecology and Evolutionary Biology, and Molecular, Cell, and Developmental Biology will use the new equipment.

Russell Flegal, professor and chair of environmental toxicology, will coordinate the award from the W. M. Keck Foundation.



Each year, UCSC's Academic Senate honors a number of the campus's most exemplary and inspiring teachers. Twelve such professors and lecturers, nominated by students, received recognition for teaching excellence in 2001. Pictured above, they are: (back row, l-r) Robert Shepherd, lecturer in economics; Karen Tei Yamashita, associate professor of literature; Frank Galuszka, professor of art; Daniel Palleros, lecturer in chemistry; Conn Hallinan, lecturer in writing; Jeremy Elkins, lecturer in legal studies; and Jorge Hankamer, professor of linguistics; (front row) Michael Urban, professor of politics; Jaye Padgett, associate professor of linguistics and chair of the Committee on Teaching, who joined the awardees; Jody Greene, assistant professor of literature; and Charles McDowell, professor of computer science. Not pictured: Frank Andrews, professor of chemistry, and Dana Frank, professor of American studies.

Gender differences in communication

COMMUNICATION problems send couples into therapy more than any other relationship issue. With both men and women feeling at times like their partners are from another planet, sociologist Dane Archer had plenty to work with when he took on his latest project. *Gender and Communication: Male-Female Differences in Language & Nonverbal Behavior* is the newest addition to a series of award-winning educational videotapes on communication that Archer has produced.

The 42-minute videotape explores “how gender affects us every time we communicate,” said Archer, a professor of sociology at UCSC.

Five years in the making, the video artfully tackles the pervasive—and sometimes entertaining—differences in verbal and nonverbal communication between men and women.

“We wanted to produce a work that looks at the topic broadly and that captures, in an imaginative way, how gender scripts our interactions,” said Archer. The result is a resource that taps the disciplines of sociology, psychology, anthropology, linguistics, and women’s studies.

The video blends commentary by communications experts with examples of gender-based differences in communication, movement, space, and touch. Little things, such as differences in the amount of space men and women take up on a couch, illustrate the pervasiveness of gender in our lives.

Intended for college audiences, much of the video focuses on differences between men and women in conversational styles. “We wanted to produce a videotape that would promote discussion of how gender inequality is reproduced in daily life,” said Archer. “Gender differences in communication are everywhere. That awareness is the first step toward change.”

High schoolers give COSMOS an A+

THE SMILE ON 16-year-old Long Vuong’s face said it all. Vuong, a student at Willow Glen High School in San Jose, couldn’t stop grinning as he described his experiences with COSMOS, a UC math and science program for high school students.

COSMOS gives participants a chance to take advanced math and science classes in a college setting. “We don’t have anything like this at our school,” said Vuong. “It’s been a very

memorable program.”

COSMOS, known formally as the California State Summer School for Mathematics and Science, is UC’s four-week residential program that gives students a chance to take advanced math and science classes in a college setting. Programs are offered at UCSC, UC Irvine, and UC Davis for students entering grades 8 through 12.

Participants take thematic courses that focus on one or two subjects, attend lectures, participate in labs, and go on both academic and social field trips.



COSMOS gives participants a chance to take advanced math and science classes in a college setting.

The magnificent sounds of the minke whale

WHEN JASON GEDAMKE and Daniel Costa first went to Australia to record the sounds of dwarf minke whales, people told them they were wasting their time. There were very few reports of minke whale vocalizations, and some experts believed the species rarely made any sounds at all. But according to Gedamke, a UCSC graduate student, not only are minke whales vocal, their repertoire includes a loud and distinctive songlike sequence unlike any

previously recorded whale sound.

“It’s surprisingly loud and complex, and sounds like it’s produced mechanically or synthetically,” Gedamke said. “When I first heard it, I couldn’t

believe it came from a whale.”

Neither could some whale experts he sent the recording to later, who suggested he check with the Australian Navy to find out if the noise was coming

from their equipment. It turned out that Australian researchers had been hearing it for years and called it the “guitarfish” or “boingfish” sound, but had no idea what its source was.

Gedamke and Costa, a professor of ecology and evolutionary biology at UCSC, worked with Andy Dunstan, a scientist on the research and ecotourism vessel *Undersea Explorer*.

They went to great lengths to demonstrate conclusively that the sound is made by dwarf minke whales. The researchers reported their findings in the June issue of the *Journal of the Acoustic Society of America*.



UCSC graduate student Jason Gedamke has a close encounter with a dwarf minke whale near Australia’s Great Barrier Reef. To listen to the sound, go to: currents.ucsc.edu/00-01/06-04/minke.wav

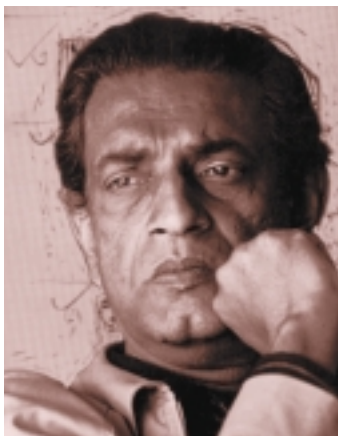
Satyajit Ray collection boosted by grant

SATYAJIT RAY WAS ONE OF those artists whose influence extends beyond his own culture to become an important part of our shared human heritage. Even if you've never heard of Ray you've been touched by his influence—echoes of his cinematic legacy are present in our own culture today, from *E.T.* to *The Simpsons*. Ray wasn't just India's most renowned filmmaker; in the opinion of many, he was the greatest filmmaker in the latter half of the 20th century.

Ray's films are acclaimed internationally for their inventive technique, literary depth, and profound humanity, and UCSC's Satyajit Ray Film and Study Collection (Ray FASC) was established in 1993 by Professor Dilip Basu to preserve Ray's work and make it accessible to the public.

Ray FASC was recently awarded a grant of \$210,000 by the Packard Humanities Institute to continue this important work. In addition, Dr. Anu Luther Maitra has announced that she will provide an endowment of \$100,000 in the name of her late husband, Sidhartha Maitra, to establish the Sidhartha Maitra Endowed Lecture series.

Satyajit Ray



COURTESY OF THE SATYAJIT RAY FILM AND STUDY COLLECTION

Women and the Silent Screen

WOMEN PLAYED A REMARKABLE role in the early film industry, enjoying degrees of creative control that remain unparalleled even today. As directors, screenwriters, and actors, they helped shape the contours of cinematic language in the early 20th century.

The work of key silent film pioneers was celebrated at UCSC in November during a major international gathering of some 60 silent film scholars, the first of its kind in the U.S.

The conference, organized by Professors Amelie Hastie

and Shelley Stamp of UCSC's Department of Film and Digital Media, included screenings of such film's as Germaine Dulac's *The Smiling Madame Beudet*, one of the outstanding achievements of 1920s French cinema.

The New Music Ensemble, under Professor Nicole Paiement's direction, performed a new score by composer Carolyn Yarnell, commissioned for the screening.



Silent star Lillian Gish also directed.

Heart O' the Hills, starring Mary Pickford, was also screened, and renowned silent film composer Maria Newman conducted a performance of her new score for the film.

New planets have solar system orbits

AN INTERNATIONAL TEAM of astronomers has discovered eight new extrasolar planets, including at least two that travel in circular orbits similar to those of Earth and Mars. Planet hunters have now detected nearly 80 planets orbiting nearby stars, but most of them have elongated, or "eccentric," orbits.

The latest discoveries strengthen the likelihood of finding solar systems analogous to our own, said UCSC professor of astronomy and astrophysics Steven Vogt, a member of the team that made the latest discoveries and lead author of a paper submitted to the *Astrophysical Journal* describing some of the new planets.

"Most of the planetary systems we've found have looked like very distant relatives of the solar system—no family likeness at all," Vogt said. "Now we're starting to see something like second cousins. In a few years' time we could be finding brothers and sisters."

The newly detected planets

range in mass from 0.8 to 10 times the mass of Jupiter, the largest planet in our solar system. They orbit their stars at distances ranging from about 0.07 to 3 astronomical units (one astronomical unit is the distance from the Sun to Earth).

"As our search continues, we're finding planets in larger and larger orbits," Vogt said.

The further a planet lies from its star, the harder it is to detect because it takes longer to complete an orbit. Only recently have astronomers begun to make the precise measurements over long observing times needed to detect such planets.

From the U.S., Australia, Belgium, and the United Kingdom, the astronomers are searching the nearest 1,200 stars for planets similar to those in our solar system, particularly Jupiter-like gas giants.



This is a possible scene from a moon of the extrasolar planet in orbit around the star HD23079. The planet is about three times the mass of Jupiter and orbits the star in 628 days, with a nearly circular orbit of one-and-a-half times the Earth-Sun distance (almost the same as that of Mars).

DAVID A. HANBY; COURTESY PARTICLE PHYSICS AND ASTRONOMY RESEARCH COUNCIL

Fire guts two labs in biology building

A FIRE AT UCSC in mid-January injured no one but gutted two large research labs, damaged other areas of the building, and closed several other buildings in the Science Hill area of campus for a day.

The blaze, which broke out on the fourth floor of Sinsheimer Laboratories, the campus's primary biology building, destroyed the labs of biologists Manuel Ares and Jane Silverthorne.

At press time, the fire was under investigation, and the cause had not been determined.



LOUISE GILMORE DONAHUE

UCSC researchers lead study of global warming

WITH A \$2.5 MILLION grant from the National Science Foundation, UCSC researchers are leading an interdisciplinary team from seven institutions in a project to study the consequences of global warming. The five-year project focuses on a dramatic episode of global warming that took place 55 million years ago at the end of the Paleocene epoch.

The Late Paleocene Thermal Maximum (LPTM) was one of the most abrupt and extreme global warming events in the geologic record. Over a period of several thousand years, the Earth warmed by as much as 10 degrees Celsius (18 degrees Fahrenheit), said James Zachos, professor of Earth sciences at UCSC and lead investigator of the project.

"The LPTM was a natural greenhouse experiment run on a global scale, which we now have the opportunity to study from

beginning to end," Zachos said.

The project seeks to understand how global ecosystems responded to and eventually recovered from this brief (in geologic time) episode of extreme global warming.

"A more comprehensive understanding of what took place 55 million years ago will provide us with a much better appreciation of the sensitivity of biological systems to global climate change," Zachos said.

In addition to Zachos, the UCSC investigators involved in the project are professor and chair of ocean sciences Margaret Delaney and associate professors of Earth sciences Paul Koch and Lisa Sloan.

UCSC's Center for the Dynamics and Evolution of the Land-Sea Interface, an interdisciplinary research center directed by Zachos, provided crucial support for the grant proposal and will play an important role in facilitating project-related workshops, student participation, and public outreach.

In Memoriam

Marcia "Toni" Landels Hyman, a past trustee of the UC Santa Foundation, died of cancer in December at her home in San Francisco. She was 65.

A staunch environmentalist, Mrs. Hyman supported the preservation of redwood forests, especially the Landels-Hill Big Creek Reserve in Big Sur, which her father, Edward D. Landels, helped to establish. The Big Creek Reserve is part of the University of California Natural Reserve System, and it is one of four natural reserves administered by UCSC.

Mrs. Hyman served on the board of the UC Santa Cruz Foundation from 1997 to 2001. She was also an active supporter of the Arboretum.

Contributions in her name should be sent to the UCSC Foundation for the Big Creek Reserve fund at the Carriage House, UC Santa Cruz, 1156 High Street, Santa Cruz, CA 95064.

Alumni Association names award winners

A WIDELY PUBLISHED professor of classical studies at a California State University campus, a psychology professor at UCSC who is an authority on prison conditions, and a staff member who helped establish Kresge College have been named winners of the UCSC Alumni Association's achievement awards for 2001-02.

In campus ceremonies scheduled to take place on February 2, Victor Hanson was to receive the Alumni Achievement Award; professor of psychology Craig Haney, the Distinguished Teaching Award;



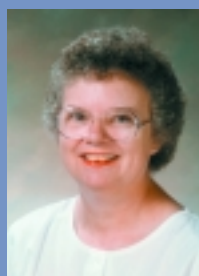
ONASSIS FOUNDATION

Victor Hanson



UCSC PHOTO SERVICES

Craig Haney



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Betsy Wootten

and Betsy Wootten, the Outstanding Staff Award.

The Alumni Council, the association's governing body, selected the winners based on nominations from students, faculty, alumni, and staff.

Alumni award recipient Victor Hanson has attracted attention for his provocative perspectives on the demise of the family farm, the humanities

and their place in the intellectual health of our nation, military history, and the global role of the United States. A graduate of Cowell College in 1975 with a B.A. in classical literature, Hanson has been a professor of classical studies at CSU Fresno for 12 years.

Teaching award winner Craig Haney has dedicated

much of his life to studying the impact of incarceration and the system of capital punishment in the United States. His testimony has proved critical in several court decisions. Many students nominating Haney for the award said his classes, concern for students, and commitment to social justice have inspired them.


Outstanding Staff Award winner Betsy Wootten is the supervisor of faculty services at Kresge College. She is the "friend and confidant of students, faculty and staff, their first point of contact and their appeal of last resort," wrote Helene Moglen, professor of literature, in nominating her. Wootten has been at Kresge from its beginning in 1971.

The Twin Passions OF
KENT NAGANO:



Music AND Community

By JOHN NEWMAN



THE MUTED CHAOS OF LOW VOICES QUIETS as the houselights come down. A shimmer of high strings forms in the dimness, a faint luminous veil over the audience, gathered on a Saturday afternoon last September in Los Angeles's Dorothy Chandler Pavilion. The passage is charged with promise and risk—the opening of the overture to Richard Wagner's *Lohengrin*.

Wagner's operas are the kind of musical and theatrical challenge that can be a crucible for any company. It is an audacious choice for the Los Angeles Opera. The company has made only two attempts at Wagner before, only one of which was well received, although it is widely known that the opera has ambitious plans to stage the composer's *Ring* cycle in 2003, complete with Hollywood special effects supplied by Industrial Light and Magic.

But the opera has recently undergone a change in leadership with Plácido Domingo assuming the position of artistic director and Kent Nagano the post of principal conductor. It would be an exaggeration to say the future of the company rests on this single performance of *Lohengrin*, but there is a lot on the line. Now the rehearsals are over, the stage is set, and the afternoon is in the hands of the performers and Maestro Nagano, making his debut.

Not that anyone, including Nagano, has anything but confidence in his baton. Nagano, a 1974 graduate of UCSC (Porter College), is one of the most sought-after conductors in world. He is the music director of Berlin's Deutsche Symphonie and previously served in the same capacity for England's Hallé Orchestra and the Opéra National de Lyon in France. Nagano's energy, exacting artistry, and fresh ideas have

E. R. JONES



Maestro Nagano rehearses a Schoenberg piano concerto with the Berkeley Symphony and pianist Mari Kodama.

invigorated every organization with which he's been associated. In fact, Nagano is so in demand as a conductor he's had to turn down a number of prestigious organizations seeking his services, including—initially—the Los Angeles Opera.

When Domingo first approached him about accepting the post of musical director, Nagano—though honored—felt that he needed to decline. “In Lyon, I enjoyed an extraordinarily effective partnership with a particularly great and visionary general director,” Nagano says. “The freedom that we had to shape the identity of the opera house and establish its integrity was extraordinary and ideal. Because of this we were able to accomplish much more than was thought possible. It's rare to find that kind of partnership, and I hesitated to work in a house again unless it was under similar conditions.”

What changed Nagano's mind was Domingo's vision of a uniquely West Coast opera house. “He asked me to help him create an opera house that has such a unique character that it could only be found on the West Coast of the United States. That was the deciding factor for me—the challenge to build an opera house that is not only of a very high standard, but which is unique to California

culture, reflecting both the region's intersection with the great European tradition and its role as a major carrefour of the world.”

As a native Californian, Nagano is well qualified to bring the perspective of the Golden State to the international opera community. He was born in Berkeley in 1951 (while his parents were both graduate students at UC Berkeley); but before he was a year old, his family relocated to the small Central Coast town of Morro Bay.

In those days, Morro Bay was a tiny coastal village with a farming and fishing economy. Though breathtakingly beautiful and idyllic, Nagano says, Morro Bay offered a music education that was unremarkable except in one very significant respect—affiliated with the public elementary school was a kind of music conservatory, established by an emigré from Soviet Georgia who had been trained in Munich Hochschule and was committed to the European musical tradition.

“We had to be there before 7 in the morning for private instruction,” recalls Nagano, who played piano and clarinet. “We took instruction until school started, and after school we returned to the conservatory for orchestra and band practice. Between regular classes, music instruc-

tion, practice, and performance, the students who chose to study there very often ended up with 12-hour days.”

The long hours of study produced a remarkable number of professional musicians, especially from such a small town. In addition to Nagano, for example, the local conservatory nurtured Jerry Folsom, who was later to become the principal horn for the Los Angeles Philharmonic. “I remember sitting a few chairs away from him in orchestra, and our families were friends,” Nagano says. “I'm fairly confident that without those early years of education in the European discipline and traditions of art, aesthetics, and music, it would have been nearly impossible to even entertain the idea of a career in music.”

In fact, when he first arrived at UC Santa Cruz in the fall of 1969, Nagano didn't entertain the idea. The early '70s were a period of social upheaval all over the U.S. and especially on college campuses. Like a lot of 17-year-old freshmen, Nagano hadn't decided on a career path, although he was investigating a number of possibilities including social sciences, politics, or—reflecting his rural upbringing—veterinary medicine.

“I had a keen interest in sociopolitical sciences, particularly international rela-



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In spite of his international acclaim, Nagano has remained loyal to his West Coast roots. He is still music director of the Berkeley Symphony, for example, a position he has held for 23 years.

tions—an interest that remains today. It was a study that seemed very relevant at the time, and I had thought it might eventually lead to a profession of some international nature—perhaps the diplomatic corps, politics, or the legal field,” Nagano says. “Though it did not occur to me at the time, these studies would prove to be an introduction to a life’s work in international communication—one without words but through music, aesthetics, art, and theater, rather than politics.”

Even though music wasn’t his primary motivation for choosing UCSC, it played an important part in defining his interest in the campus. “UCSC had an unusually prestigious group of professors who headed the Music Department, some of whom I had already been exposed to through their writings. One particularly influential music teacher with whom I very much wanted to work with was Dr. Grosvenor Cooper. He and Dr. Edward Houghton [current arts dean at UCSC]

had a tremendous effect upon the development of my interests.”

Doing undergraduate study at UCSC had other benefits as well, and Nagano took full advantage of them. “The standard of the faculty was extraordinarily high, and, if you had the discipline and the interest, you could pursue a subject far beyond the time limitations of normal course work. My memories are full of hours, days, weeks, and months of extra seminars and private tutoring in Dr. Cooper’s home, studying composition, counterpoint, and analysis—generous, private instruction, which continued for several years beyond graduation.”

Even after he’d graduated from UCSC with dual degrees in sociology and music, Nagano still didn’t think of music as a career. But during his last two years on campus, he found himself being asked with increasing frequency to conduct various ensembles or serve as assistant conductor for classes. “As passionate as my love for

music was, conducting wasn’t something I necessarily wished to pursue as a vocation. Rather, it was something I initially began more because there was a need.”

For Nagano, though, his career path remained undefined. At the same time he enrolled at San Francisco State University for graduate work in music, he received permission to attend classes at the University of San Francisco in graduate-level sociology courses. “But one day I found myself doing more conducting than anything else—and it was at that point, I realized with some amazement that, at least technically speaking, I had become a conductor.”

And he has been a very busy one ever since. In 1984, Nagano created a sensation by successfully conducting the Boston Symphony in a performance of Mahler’s Symphony No. 9 with one day’s notice, without rehearsal, and without ever having conducted the work before.

Before he accepted the position with



the Los Angeles Opera last fall, Nagano relinquished his positions as music director of the Hallé Orchestra (after a tenure of nine years) and the Opéra National de Lyon (under his guidance for almost 10 years). Under his leadership, both companies rose to prominence and established an international reputation for innovative productions of exceptional quality.

Nagano is also one of the most prolific conductors ever to step into a recording studio, and his recordings have received international acclaim. A multiple Grammy winner with four of his recordings having won the prestigious award, Nagano has also received international honors from England, Germany, France, and Belgium. The first recordings he made with the Lyon company, French versions of Strauss's *Salome* and Prokofiev's *Love for Three Oranges*, were instant sensations. Mark Swed, music critic for the *Los Angeles Times*, declared Nagano's recordings of Busoni's *Doktor Faust* (with the Lyon company), Messiaen's *Saint François d'Assise* (from the Salzburg Music Festival), Peter Eötvös's opera *Three Sisters* (which Nagano commissioned and premiered in Lyon in 1988), and Leonard Bernstein's *A White House Cantata* (the concert version of the musical *1600 Pennsylvania Avenue*, which Nagano premiered in London in 1999) "the four most necessary operatic recordings of the century's end."

Nagano's elegant operatic refinements haven't necessarily been restricted to the orchestra pit, either. In Lyon he brought in celebrated Japanese architect Arata Isozaki to design sets for the company's first production of *Madam Butterfly* and legendary Japanese film director Hiroshi Teshigahara to direct its first production of *Turandot*. Los Angeles can expect a similarly inventive approach.

In addition to his current post at the L.A. Opera, Nagano continues to serve as music director of Berlin's Deutsche Symphonie and is active as a guest conductor with many of the world's foremost orchestras and opera companies. In spite of his international acclaim, he has remained loyal to his West Coast roots. He is still music director of the Berkeley Symphony, for example, a position he has held for 23 years.

It was with the Berkeley Symphony, in fact, that Nagano began building his reputation for serious and ambitious projects, such as a survey of Messiaen's epic orchestral works in the early 1980s. While preparing a series of performances of Messiaen's work, Nagano developed a relationship with the French composer that eventually led to Messiaen's arrival in Berkeley for a performance of his work *The Transfiguration of Our Lord Jesus Christ*, as well as Nagano's participation in the 1983 world premiere in Paris of

Messiaen's opera *Saint François d'Assise*.

As a part of his vast symphonic repertoire, Nagano makes it a priority to bring quality productions of modern composers to the public. At the Salzburg Festival in 2000, he conducted the world premiere of Finnish composer Kaija Saariaho's opera *L'Amour de loin*. At the Berlin Festival that year, he conducted the Deutsche Symphonie in an evening of works by Stockhausen, along with his Bruckner cycle. At the end of the year, he premiered a new nativity oratorio for the millennium, *El Niño*, by John Adams, in Paris. A longtime friend and advocate of Adams, Nagano also conducted the premiere of Adams's most controversial work, *The Death of Klinghoffer*, in Brussels, and later conducted an award-winning recording of the work.

"It is a special and tremendous responsibility to create or present a piece that has never been heard," Nagano says. "The audience relies upon your judgment and needs to trust you to introduce them to works which are just as provocative and performed with the same high standard of quality that we have in traditional literature. If you don't compromise quality of repertoire or performance, the public will follow you. Through this commitment, the opera house becomes a vital and integral part of the community."

Nagano is aware that making the Los



"These studies would prove to be an introduction to a life's work in international communication—one without words but through music, aesthetics, art, and theater, rather than politics."

Angeles Opera a living part of that vast multicultural community will be an enormous challenge. “Los Angeles is assuming an ever-increasing role as one of the most important centers of the whole world,” he notes, “midway between Europe and the Pacific Rim, and influenced by the traditions of both. Mr. Domingo and I both feel that this is an opportunity for the Los Angeles Opera to reflect some of the tremendous diversity of the area on the stage with the performers, in the repertoire that’s chosen, and in the commission of new works by composers like Luciano Berio and Unsuk Chin. We also want to bring in important traditional works that haven’t been performed in Los Angeles, such as *Lohengrin* and *The Ring* cycle.”

That Nagano is taking on such a challenge is no surprise to anyone familiar with his long-standing commitment to both music and the social sciences. “Cultural institutions are meant to serve, lead, and reflect the community,” he says. “If and when they don’t, they are at immediate risk of becoming irrelevant. Should they become irrelevant, they surely will not survive. This is particularly true in opera because the art form is so expensive.”

So far, Nagano’s formula for social relevance has proven to be a recipe for success in Los Angeles. By the time the lights came up on the Saxons and the Brabants, in the opening scene of *Lohengrin* in last September’s performance, everyone in the Dorothy Chandler Pavilion knew that the hands of the maestro had fashioned yet another success—and, in the process, were brightening the future for opera fans on the West Coast.

AFTER 9/11: NURTURING HOPE THROUGH MUSIC



UCSC Chancellor M.R.C. Greenwood, Placido Domingo, and Kent Nagano at the reception following the debut of the L.A. Opera’s performance of Wagner’s Lohengrin

W HERE WERE YOU when you heard the news on September 11? Kent Nagano, like a lot of other people, was on his way to work, but in his case that meant on a plane enroute from Germany to Los Angeles to conduct the opening of *Lohengrin* at the Los Angeles Opera four days later. He knew something was wrong even before he got the news.

“We were about an hour and a half from L.A.,” he recalls, “somewhere over Calgary, Canada, and the plane suddenly turned 180 degrees. After about an hour of flying in the wrong direction, and seeing the Rocky Mountains, which had just disappeared, reappear again, the captain came on the intercom and told us we had been ordered to go back to Germany. But he didn’t tell us why.”

It wasn’t until the plane landed in Iceland to refuel that Nagano and his fellow passengers learned about the events at the World Trade Center and the Pentagon. The flight returned to Frankfurt but wasn’t allowed to land there and was diverted to another German city, Leipzig.

Nagano still needed to get to Los Angeles. After a few hours in Leipzig, he managed to get a flight to Munich. After a

day in Munich, the opera company devised a circuitous route to get him to Los Angeles: From Munich he flew to Frankfurt, and from Frankfurt to Mexico City; from Mexico City, he caught a puddle jumper to Guadalajara, and then on to the border town of Tijuana, where a car was waiting to drive him to L.A. To make the trip complete, a bomb scare at the border crossing held him up for two more hours.

Nagano finally made it to Los Angeles, but one indirect consequence of the terrible events of September 11 was that the orchestra had to forgo its final rehearsals. In

spite of that—and perhaps inspired by their need to contribute to the community in whatever way they could—the members of the company gave a tremendous performance. For many in the audience that afternoon, the message of hope and triumph of the human spirit in *Lohengrin* was a soothing balm for the soul.

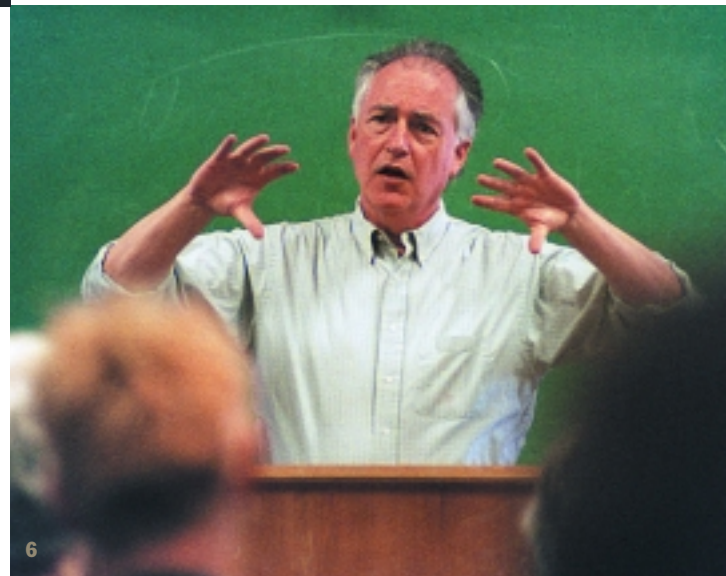
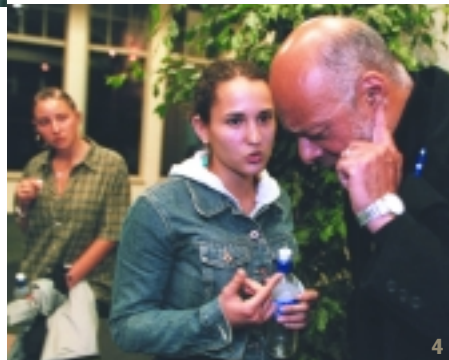
“It really was a transforming experience,” noted Chancellor M.R.C. Greenwood at a special postperformance reception the UCSC Alumni Association hosted that day to honor Nagano. “For a few hours, the beauty of the music, the artistry of the conductor, and the talent of the cast took us to another place and reminded us of the extraordinary change in our lives that music and art can make.”

In addition to Nagano and the chancellor, speakers at the reception included artistic director Placido Domingo and UCSC arts dean Edward Houghton, who was one of Nagano’s UCSC teachers and remains a collaborator, having researched and translated a Renaissance mass for a performance that Nagano conducted in fall 2000 in Berlin.

No matter the venue, though, Nagano-led performances seem to generate a rare kind of excitement. Just ask the nearly 100 guests at the UCSC alumni reception in Los Angeles.

—JOHN NEWMAN AND ANN GIBB

UCSC responds



For firefighters and police officers, responding to crisis is part of the job description. But for most faculty and staff at UCSC, the events of September 11 presented a unique challenge. With thousands of students scheduled to arrive within the next five days, many scrapped lesson plans, adjusted move-in schedules, and revamped fall orientation activities in anticipation of a very different start to the school year. Those efforts proved to be just the beginning of a fall quarter unlike any other.

to September 11



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Sociologist Dane Archer faced a professional challenge as he sought to incorporate the September 11 tragedy into the first meeting of his class *Violence, War, and Peace*. Archer knew he had a unique opportunity to reach students, but he struggled with how to do it. Finally, just hours before students were due to gather for the first evening class, inspiration struck.

The result was a three-hour tour de force called “On Higher Ground” that began with Aretha Franklin’s rousing rendition of the gospel song by the same name. Archer then presented 15 ways in which the world is a safer and less violent place thanks to the efforts of small numbers of individuals who organized for social change. He cited those who worked to end atmospheric testing of nuclear weapons and the proliferation of weapons of mass destruction in the Third World, as well as nonwar examples such as the end of school paddling—and the criminalization of spousal rape—in a single generation.

“I told the class that none

of this would bring the dead in New York back to life, but I emphasized that each of us stood on higher ground because—time and again—small numbers of people had been able to catalyze important changes,” said Archer, a professor of sociology who has taught at UCSC since 1972. “The trick was to try to replace terror with hope, and I think we did that that night.”

That first class was so successful that Archer warned his students it would be all downhill from there (it wasn’t). But what Archer’s experience illustrates is one of the many deft and creative ways faculty at UCSC responded to the crisis in the days, weeks, and months after four hijacked planes struck the World Trade Center, the Pentagon, and a field in rural Pennsylvania.

The audacity of the attacks, and the death and destruction they wrought, were overwhelming, and UCSC offered solace for wounded spirits, as well as worried minds. That first week, professor of music Anatole Leikin performed a solo piano

concert on campus for a noon-time audience. The residential-life staff of the colleges postponed their regular orientation training to prepare for the arrival of distressed students, many of whom would be leaving home for the first time. Crisis counseling and support were made available to the campus community.

And when the students arrived, the campus welcomed them with a candlelight vigil at the Quarry Amphitheater. Mournful notes from a violin reflected the mood as the capacity crowd was invited to the stage to write messages on ribbons that were hung to form a colorful, fluttering backdrop. The Quarry fell silent as Chancellor M.R.C. Greenwood led a few moments of reflection, and the gathering ended with song.

Within days, UCSC lecturer

1 Professor Manuel Pastor **2** Professor Alan Richards and KZSC-FM broadcast adviser Eric Schoeck **3** Attending a community forum **4** Professor John Brown Childs fields a query **5** Professor Angela Davis **6** Professor Edmund “Terry” Burke **7** An opening-weekend vigil in the Quarry Amphitheater **8** Professor Anatole Leikin performs a solo memorial concert **9** Hundreds attend campus-sponsored teach-ins **10** Muslim community activist Maha ElGenaidi

PHOTOGRAPHY: 1-6 AND 9-10, TOM VAN DYKE; 7 AND 8, UCSC PHOTO SERVICES



Left to right: Paul Lubeck, Ronnie Lipschutz, and Bryana Britts

TONY VAN DYKE

Tapping the Roots of Islamic Activism

IN EARLY MARCH, prominent international scholars of Islam will gather at UCSC for a four-day conference on globalization and Islamic social movements. When planning for the conference began last summer, no one imagined the events that would make Islamic discontent eclipse all others. But UCSC sociologist Paul Lubeck says there was “plenty of forewarning” of Muslim rage against the United States.

“Militant Islamic movements have replaced Third World nationalism and Marxist movements in their opposition to American global power and cultural domination,” says Lubeck, a professor of sociology and an expert on Islam. “They are the most important opposition movement to globalization today.”

Last June, with a large grant from the Carnegie Corporation, Lubeck and Ronnie Lipschutz, an associate professor of politics, began a study of the ways in which Islamic social movements are mobilizing to challenge economic globalization. Since then, the September 11 terrorist attacks against the

United States have focused attention on the roots of Islamic anger.

Clearly, extremists like Osama bin Laden represent a “splinter movement” within Islamic culture, yet there is “widespread sympathy for somebody representing Islam on the world stage,” says Lubeck. About 20 percent of the world’s population are followers of Islam, the fastest-growing religion in the world, and anti-Western sentiment is strong among Muslims, to whom economic liberalization smacks of Americanization.

In their two-year study, “Comparative Muslim States, Movements, Networks and Strategies,” Lubeck and Lipschutz are examining how Muslim states are coping with activist groups and their demands for greater self-determination. Despite their disdain for Western ways, Islamic organizers have embraced new global communication networks, and the study’s project director, Bryana Britts (Merrill ’99), is creating a public database of Muslim sites on the World Wide Web.

The project, however, has become infinitely more complex since last September. “This has become a transnational movement,” says Lubeck. “September 11 blew the lid off, but the challenge of addressing the underlying grievances remains.”

—JENNIFER McNULTY

in piano Mary Jane Cope pulled together a benefit concert at Holy Cross Church with flutist Leta Miller of UCSC’s Music Department and violinist Michelle Witt, manager of UCSC Arts & Lectures.

“There is a power in music that touches us all,” said Cope, whose concert raised nearly \$1,700 for the American Red Cross disaster-relief fund. “Music offers a sense of commonality. It reaches people on a level that gets them in touch with something deep inside. Now more than ever, the arts are a way for us to dig deep inside ourselves and find what’s most human about ourselves.”

Numerous university-sponsored teach-ins bridged the “town-gown” gap and fed the public’s appetite for information and analysis. Standing-room-only crowds filled large venues to hear UCSC experts discuss the Middle East, U.S. energy policy, South Asia, race and the crisis, and many other topics. More than 500 people packed Classroom Unit 2 on September 28 for a Middle East teach-in during which Alan Richards, a professor of environmental studies with 30 years experience in Middle Eastern affairs, exhorted the crowd to “think outside the box” as he declared the terrorist attacks on the United States “a crisis unlike anything the country has ever faced.”

In the week after the attacks, nearly 100 people, including Greenwood, crowded into the College Eight Student Commons Room to hear three top UCSC social scientists discuss the role of the social sciences in the wake of the attacks and subsequent hate crimes. And in October, Angela Davis, a professor of history of con-

sciousness, participated in a panel discussion of race with Muslim community activist Maha ElGenaidi and Professor Manuel Pastor of Latin American and Latino studies at a downtown forum that drew several hundred people.

"The response of the whole UCSC community has been unlike anything I can remember, back even to the Vietnam era," said history professor Edmund "Terry" Burke, chair of the Ad Hoc Faculty Committee on Current Events, which was formed in the wake of the September 11 attacks. "The level of interest has been huge. People really want to learn and to think together about this important turning point in our country's history."

Faculty also reached audiences far beyond the campus by fielding calls from reporters at news organizations around the world, including the *New York Times*, the *Christian Science Monitor*, the *Boston Globe*, Minnesota Public Radio, and BBC Radio. Campus experts have weighed in on topics as diverse as Islam, U.S. foreign policy, war propaganda, and Russia's role in the U.S. "war on terrorism."

Closer to home, KZSC, the campus radio station, and KUSP, the local National Public Radio affiliate, benefited from UCSC expertise as faculty took to the airwaves. The public response to shows with faculty, as well as other experts, prompted KUSP to archive the shows on the station's web site (kusp.org) and even helped the station's fundraising drive in October.

"What's lovely about having local experts is that we can find out what's going on behind the news," said Bonnie Primbsch

(Crown '92), public affairs producer at KUSP. "We hear little bits on the news and then have a lot of questions."

In individual classrooms like sociologist Dane Archer's, faculty took advantage of countless "teaching opportunities." In community studies, new Assistant Professor Pamela Perry jumped at the opportunity to coordinate a student-led research project compiling youth reactions to the attacks and subsequent events.

In early November, a convergence of crisis-related events prompted the faculty committee to declare "A Week of Reflection on the Crisis." In separate events, faculty and other experts addressed the domestic implications of the crisis, the energy-related undercurrents of the war on terrorism, racial and gender aspects of the war, and the South Asian dimension of the crisis.

"It was a remarkable week," said Burke, who came to UCSC in 1968.

Of course, faculty are not the only ones who have given generously of their time and talent. UCSC firefighters collected nearly \$10,000 for families of fallen firefighters in New York. A staff member helped organize a benefit run to raise money for disaster-relief efforts in New York. Alumni in New York City shared their stories of survival on a special web site that was created to bring the UCSC community together. And students mobilized to sponsor educational, cultural, and social events related to the crisis.

"There has been an openness and a willingness to reach out to each other that is quite remarkable," said Burke.

—JENNIFER McNULTY

Alumni Losses and the Rush to Preserve History

ON THE MORNING OF SEPTEMBER 11, staff of the UCSC Alumni Association office sent an e-mail message of concern to hundreds of graduates in New York City and Washington, D.C. About 50 responded with notes of gratitude and stories of their experiences. That electronic link offered hope and reassurance at a time when it was most welcome.

Yet it was also via e-mail that the campus learned of two losses. Atsushi Shiratori (Merrill '89) lost his life in the New York City attack. Shiratori worked at Cantor Fitzgerald, the New York firm with offices in the top floors of the World Trade Center.

Catherine Tenorio Miller (Kresge '92) wrote to share the heartbreaking news that she and her husband, David, lost their 21-year-old daughter, Nicole Carol Miller, who was on the flight that crashed in Pennsylvania. "She was the third of four kids in our blended family, and we all miss her terribly," wrote Miller. "We miss her loving ways, her quick wit that always made one laugh, her patient, caring ways, and her beautiful smile."

To help document the scope of the tragedy, award-winning radio producers Davia Nelson (Stevenson '75) and Nikki Silva (Porter '73) are gathering "audio artifacts" to create a "sonic memorial" that captures life before, during, and after September 11.

They are recovering audio fragments from voice mail systems, telephone answering machines, dictation tapes, and anywhere else they can find them. Members of the public are coming forward with contributions, including a recording of a pianist in the World Trade Center bar who submitted a tape of himself playing, and the final air check by the radio station that broadcast from atop one of the towers.

Nelson and Silva, producers of the National Public Radio series *Lost and Found Sound* (review.ucsc.edu/winter.01/lost_and_found_sound.html), are collaborating with NPR, WNYC Radio in New York, KQED Radio in San Francisco, and the telecommunications company Verizon to salvage and preserve the recordings.

The final form of the project remains unknown. The material might be used on the radio or incorporated into memorials at the sites of the attacks. But the focus now is on collecting and preserving these audio links to history.

—JENNIFER McNULTY

The project invites anyone with audio artifacts related to the World Trade Center to call (202) 408-0300, the same National Public Radio voice mail line used by contributors to Lost and Found Sound.

Certain *of* Uncertainty

DAVID DRAPER'S WORK includes developing statistical methods for dealing with some of the thorniest problems facing modern society, such as how to evaluate the quality of hospitals and schools, and how to assess the risks of nuclear waste disposal. His fellow statisticians in UCSC's newly forming Department of Applied Mathematics and Statistics study problems ranging from rainfall prediction to the interpretation of electrocardiogram readings from heart patients.

But if Draper sometimes sounds more like a history professor than a statistician when he talks about his work, it may be because the history of his field is so intriguing.

You might say it all started in 1654 in the court of King Louis XIV, when gambling was all the rage. An inquiry from a French knight, Chevalier de Méré, about the chances of winning a certain game of dice seems to have prompted an exchange of letters between the two leading French mathematicians of the day, Pascal and Fermat. Their correspondence laid the foundation for the mathematics of probability.

"The interesting thing is that right from the beginning, in the original exchange of letters between Pascal and Fermat, two completely different notions of probability were developed side

by side," says Draper, professor and chair of the department in UCSC's Baskin School of Engineering.

Probability theory was essential to the development of statistics, mostly in the 20th century, as a set of mathematical tools for analyzing data from experiments and observations.

The two views of probability first put forth by Pascal and Fermat eventually gave rise to two very different approaches to statistics, now known as the frequentist (or relative frequency) and Bayesian approaches. Until recently, the frequentist approach has dominated the field.

The frequentist theory of

probability is based on the idea of repetition: How frequently would a particular outcome occur in repeated trials under the same conditions? It's a natural approach for gambling, but it only works for things that are repeatable, like rolling a pair of dice. Suppose you're interested in the probability that Al Gore will run for president in 2004. From the frequentist perspective, the problem doesn't even make sense, because the event in question is a one-time occurrence that can't be repeated.

But Pascal and Fermat also described a "subjective" approach to probability. Imagine placing a bet on some



R. B. JONES

Much of the controversy around Bayesian ideas has stemmed from philosophical resistance to letting subjectivity play a role in the scientific process.

proposition—say, that Gore will run in 2004—and ask yourself what odds you would have to give or receive for you to judge the bet to be fair. It may be a subjective judgment, but it allows you to quantify your uncertainty about the proposition.

This approach was further developed in the mid-18th cen-

tury by the Reverend Thomas Bayes, an English Presbyterian minister and amateur mathematician. The theorem that would eventually make him famous was discovered among his papers and published posthumously in 1764. But it took a couple of centuries and a series of important contributions

from other mathematicians before Bayes's ideas blossomed into a whole new approach to statistics.

What Bayes did was to develop a mathematical formula for revising subjective probability in the light of new evidence. Bayes showed how to use this approach to draw inferences about future events based on the results of previous trials. The example he used involved rolling billiard balls on a table, but his method turns out to be so general that it is applicable to a wide range of statistical problems, from analyzing the results of clinical trials to

economic decision making.

Within the past decade or so, the Bayesian approach has gone from being a controversial theory on the margins of mainstream statistics to being widely accepted as a valuable alternative to the frequentist approach.

“People now realize that there is merit in both ways of looking at the world, and to insist on using only one would be like fighting with one hand tied behind your back,” Draper says.

AS DRAPER BUILDS the Department of Applied Mathematics and Statistics, the emphasis in the statistics group is clearly Bayesian. (See story, page 21, for a description of the applied math group.)

“The two main areas in which the department aims to achieve excellence are Bayesian statistical methods and mathematical modeling of complex natural phenomena,” Draper says. “The focus in both cases is on solving real-world problems in engineering and the sciences.”

One of the desirable features of the Bayesian approach to statistical inference and decision making is that it provides a straightforward way to combine new information with existing knowledge.

“You can use all of the existing information you have on the problem and build that into your statistical model in a very natural way,” says Bruno Sansó, a visiting associate professor in UCSC's statistics group.

Much of the controversy around Bayesian ideas has stemmed from philosophical resistance to letting subjectivity play a role in the scientific process. In order to evaluate new evidence relating to some hypothesis, a Bayesian has to establish a “prior” probability of the hypothesis being correct. Different people, even experts in the field, may well come up with different values for the prior probability.

approach is a myth, and what we should be doing instead is to be as clear as possible about what we assume and to show whether different assumptions all lead to the same outcome or not.”

The biggest stumbling block for Bayesian statistics, however, was not the issue of subjectivity but the complexity of the math. At the heart of the Bayesian approach is a tremendously difficult mathematical task involving a

statistics more than just an interesting theory. One was the discovery of mathematical techniques for handling high-dimensional integration problems, and the second was the advent of computers fast enough to actually do the calculations in a reasonable time.

“In the early 1990s, at the moment when computers became fast enough to really make it possible, Bayesian ideas burst forward again and created a revolution in statistics,” Draper says.

Although Bayesian reasoning is a key part of his approach to statistical problems, Draper is not about to jettison frequentist methods.

“If the frequentist and Bayesian approaches are like boxers who have been punching each other for the past 350 years, both boxers are still standing, which to me means that there must be elements of merit in both,” he says. “Rather than choosing one paradigm or the other, I think our job is to create a fusion of the two that emphasizes the strengths of each and de-emphasizes their weaknesses.”

Draper’s way of doing this is to use a Bayesian approach to formulate inferences and predictions, and then evaluate how good they are, using frequentist methods. It’s a way to “keep us honest,” he says.

“The main potential weakness of the Bayesian approach is that nothing guarantees that my uncertainty assessment is any good for you—I’m just expressing an opinion,” Draper says. “To convince you that it’s a good uncertainty assessment, I need to show that the statistical model I created makes good predictions in situations where we know what the truth is, and the process of calibrating predictions against reality is inherently frequentist.”

DRAPER HAS BEEN working on health policy issues since the mid-1980s, when he was part of a large project at the RAND Corporation, a southern California think tank, studying the cost-effectiveness of the Medicare system on behalf of the federal government. A central problem he worked on then—how to measure the quality of care that hospitals offer their patients—is still a major focus of his research.

In a nutshell, there are good ways of assessing quality that are too expensive to be practical on a large scale, and there are cheaper ways that yield less reliable information. Draper’s work is aimed at finding a combination of assessment strategies that can yield good information at a reasonable cost.

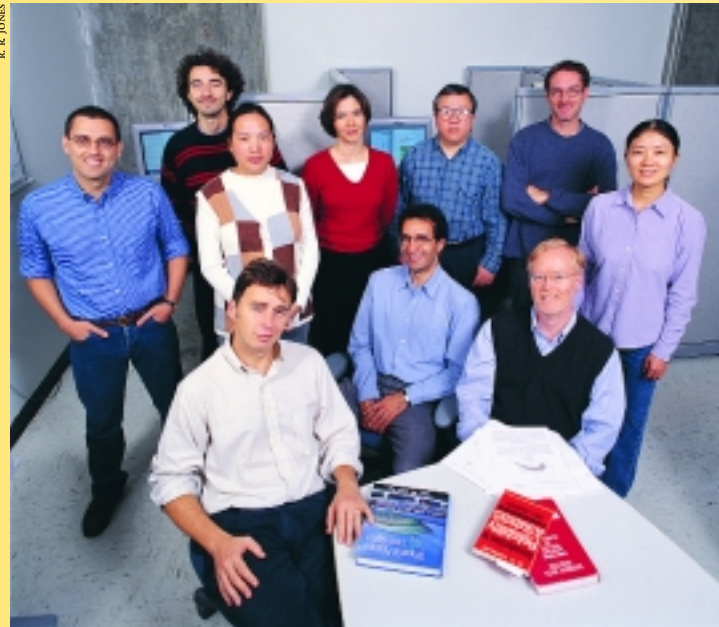
“That’s a problem we are able to come much closer to solving now using Bayesian techniques,” he says.

Quality assessment in health care has a parallel in education, where the quality of schools is always an issue. To a statistician, the data look much the same whether they describe patients in hospitals or students in schools. Both situations require what statisticians call hierarchical modeling, and the Bayesian approach turns out to be naturally suited to this task.

“Any techniques you create for measuring quality in hospitals would also be useful for measuring quality in schools,” Draper says.

Bayesian methods have proven useful in a wide range of disciplines, in part because they are more flexible and general than other approaches. Bayesians are not stymied by incomplete data sets or multiple sources of uncertainty.

“Bayesian methods handle



UCSC’s applied mathematics and statistics group: (l–r, standing) Bruno Mendes, Roberto Sassi, Hong Zhou, Raquel Prado, Hongyun Wang, Peter Grünwald, Shufeng Liu; (l–r, seated) Neil Balmforth, Bruno Sansó, David Draper

But Bayesians point out that there is no truly objective method of quantifying uncertainty. The Bayesian approach actually embraces this problem directly, Draper says, because it allows for the fact that different people will make different assessments.

“There are simple things that we can all agree on the probability of, but when you get into more complicated situations you discover there are always elements of judgment involved,” he says. “People have gradually and grudgingly come to understand that the objectivity we hoped to get from the frequentist

type of calculus called multiple integration. Most calculus students struggle with problems involving integrals in two dimensions, and would find an integral in, say, 300 dimensions impossible to compute. For centuries, such problems were effectively unsolvable, and the application of Bayes’s theorem was restricted to fairly simple situations.

“There was a long period in which Bayesians couldn’t really make computations in complicated statistical situations,” Draper says.

Two developments eventually came together to make Bayesian

the messiness of real-world scientific data better than other approaches,” says David Haussler, University Professor of computer science and director of UCSC’s Center for Biomolecular Science and Engineering. Haussler has used Bayesian methods to analyze human genome data, and one of his graduate students, Chuck Sugnet, is now working with Draper to devise statistical methods for handling certain types of genetic data.

Raquel Prado, an assistant professor of applied mathematics and statistics, uses Bayesian methods to analyze the signals from biomedical devices, such as electroencephalograms and electrocardiograms. Her work may enable physicians to extract more information about a patient’s health or prospects for recovery from these kinds of tests.

Lecturer Marshall Sylvan uses frequentist and Bayesian methods to solve a variety of problems, including predicting the scores of wines in expert taste-testings from their chemical compositions. Sylvan has taught statistics at UCSC since 1965, when he was one of the campus’s founding instructors.

Sansó uses Bayesian methods to predict rainfall and gain insights into climate patterns. He and his colleagues in the department also hope to develop collaborations in new areas of research.

“Statistics is a tool, and you can apply the same methods to many different issues—in engineering, psychology, economics, the environment—that’s one of the beauties of this job,” Sansó says.

—TIM STEPHENS

Mathematical solutions for complex problems

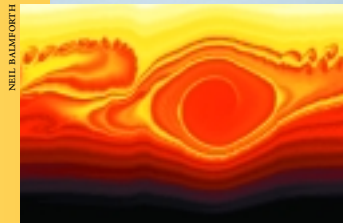
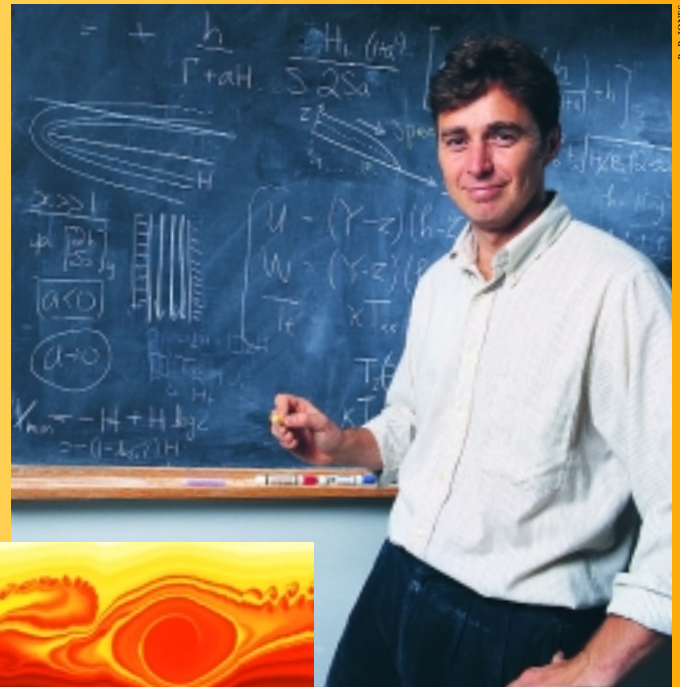
UCSC’s Department of Applied Mathematics and Statistics encompasses two related but distinct disciplines. Both statistics and applied mathematics involve using mathematics to solve real-world problems, but they address different kinds of problems. The applied mathematics group at UCSC focuses on developing mathematical models of complex natural phenomena, ranging from ocean circulation to biological systems.

“Mathematics is the tool we use to understand the phenomena we’re interested in,” says Neil Balmforth, associate professor and head of the department’s applied math group.

What distinguishes Balmforth as a mathematician who studies astrophysics (among other things), from an astrophysicist is the different expertise that each brings to the investigation of, say, star formation. There is also a difference in philosophy underlying their approaches to problems, Balmforth says.

“It’s the underlying mathematical language that’s important to the applied mathematician,” he says. “Similar mathematical techniques can help you understand many different problems.”

Balmforth’s work on fluid dynamics and turbulence, for example, has applications in astrophysics, geophysics, and oceanography. Hongyun Wang, an assistant professor in the applied math group, stud-



NEIL BALMFORTH

R. E. JONES

The “cat’s-eye” in this image (inset) is the result of waves propagating through a shear flow, a central problem in modeling the fluid flows encountered in oceanography and atmospheric sciences. Balmforth’s dynamic model shows how the waves “break,” overturning the flow into a series of vortices—a chain of cat’s-eyes—that themselves break up into smaller vortices. This pattern has implications for the mixing of the oceans and atmosphere.

ies problems in biophysics and molecular biology. He is particularly interested in the workings of the tiny molecular motors and pumps that operate within living cells. Lecturer Hong Zhou studies fluid dynamics problems in industrial processes.

In every case, their work involves creating sophisticated mathematical models of complex systems. Focusing on the mathematics does have dangers, however, according to Balmforth.

“You can get intoxicated by the mathematical elegance of the problem and do something that may be very elegant but is not really applicable to the problem that motivated it,” he says. “Collaboration is one of the best ways to make sure you have a good handle on the application, because you’re work-

ing with someone who really cares about using the results.”

Balmforth says he looks forward to developing collaborations with researchers in other departments on campus. “That’s part of what motivated the creation of this department, to lend a mathematical hand to other researchers.”

—TIM STEPHENS

Alumni Association Councilors, 2001–02

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Banana Slug Spring Fair 2002 on April 20–21



Banana Slug Spring Fair 2001 brought more than 1,600 alumni to campus for reunions and other events. (LEFT) Former Stevenson '91 roommates (l-r) Wendy Blatt, Jennifer (Chorne) Wallace (with baby Linsey), and Joanne Salustri-Cherep reconnected at the All-Alumni Reunion Luncheon. (RIGHT) The Latino Alumni Network sponsored a performance by the student dance group Los Mejicas, featuring live music by Mariachi Mujer 2000 and its musical director and violinist Laura Sobrino (Porter '77).

BANANA SLUG SPRING FAIR is UCSC's open-house weekend for alumni and prospective students. Reunions, performances, panel discussions, and tours bring alumni together and showcase UCSC as it is today. BSSF 2002 will take place the weekend of April 20–21. Highlights are listed below. For more information, contact the Alumni Association at (800) 933-SLUG or check the web site at alumni.ucsc.edu.

Events for all alumni:

► All-Alumni Reunion Luncheon.

Find old friends at this keystone event, which attracts more than 300 alumni each year. Classes of '72, '77, '82, '87, '92, and '97 will get special recognition. Alumni are seated together by class year.

► **Provost's Reception.** Every college will hold a late-afternoon reception for alumni, faculty, and staff.

► **Thirty-Year Reunion of the Class of '72.** Reconnect and reminisce during this all-day gathering at Cowell College. Join emeriti faculty John Dizikes, Richard Randolph, and others for a conversation about the campus's past, present, and future, followed by a reunion dinner with a keynote talk by campus architect Frank Zwart (Cowell '71).

► **Lifelong Learning.** Alumni can rekindle their academic interests and reconnect with beloved faculty by attending classes on Friday, April 19. Longtime faculty from several departments, as well as those relatively new to the campus, will welcome alumni visitors to lectures and discussions.

► **Retirement Reception.** On Saturday, alumni and friends will honor politics professor J. Peter Euben, who retired from UCSC in December. A distinguished political theoretician, Euben started teaching at UCSC in 1967. He won the Alumni Association's Distinguished Teaching Award in 1998.

► **Black Escargot,** UCSC's network for African American alumni, will hold a Friday-evening reception and dinner at Cowell College.

The dinner will raise money for the Black Escargot Fund, which already provides financial support to students and alumni. Special honors will be extended to alumni who graduated in '72, '77, '82, '87, '92, and '97.

► **The Page and Eloise Smith Scholastic Society** will hold a Saturday-afternoon reception for alumni, students, and faculty at Cowell's Fireside Lounge. The society offers scholarships and mentors to support the educational goals of current and prospective students who are foster youth, wards of the court, and orphans.

► **The Gay, Lesbian, Bisexual, Transgender Resource Center** will hold a Saturday-afternoon reception and discussion, giving special recognition to members of the GLBT alumni affinity group.

Alumni Association launches new web site

DID YOU EVER WISH YOU could track down a long-lost college friend or roommate? Network with other alumni to find a better job? Get a UCSC alumni "affinity" e-mail address?

Now you can do all that and more. The UCSC Alumni Association has launched its new Online Community—with many more features than *BananaSlugs.com*—to make it simple and convenient for graduates to stay in touch with each other and their alma mater.

The launch of Online Community is the perfect time to join the Alumni Association. With a click of the mouse, you can join online, support UCSC, and receive time- and money-saving benefits, including an "affinity" e-mail address, yourname@ucscalumni.com—offered exclusively to association members. All members will be highlighted in the online directory.

The Online

Community offers a wealth of networking options. Its directory will allow alumni and the campus community to easily search for and keep in touch with former classmates and faculty and update information about themselves. Other features include the ability to post resumes, advertise and search for jobs, network with professionals in similar fields, mentor current students and recent graduates, and register for upcoming alumni events, all online.

Stay connected, keep informed, and get involved faster and easier than ever before with the Online Community. Register today at alumni.ucsc.edu.

For more information, contact Lisa Bono, Alumni Association marketing director, at (831) 459-2530 or via e-mail at

lbono@cats.ucsc.edu.

Special Online Membership

Offer: Be among the first 500 people to join the Alumni Association online and receive a one-of-a-kind alumni Slug mouse pad.



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WILLIAM SHORT

The University of California Regents shown here in November 2000. First row (l-r): Tracy Davis, Joanne Kozberg, UC President Richard Atkinson, Governor Gray Davis, Chairperson Sue Johnson, Lieutenant Governor Cruz Bustamante, Irene Miura. Second row: Faculty representatives Chand Viswanathan and UCSC professor Michael Cowan, John Davies, Bob Morrison, David Lee, Velma Montoya, and Justin Fong. Third row: Meredith Khachigian, Odessa Johnson, Peter Preuss, Jeff Seymour, Judith Hopkinson, Mark Kohn, Sherry Lansing.

Alumni Association seeks new UC Regent

BEGINNING ON JULY 1, 2003, a UCSC graduate will be able to shape the future of the University of California by becoming a voting member of the UC Regents. The new Regent will represent alumni from throughout the UC system.

"Votes taken at the Regents' table affect everyone in the state," says Irene Miura, a UC Berkeley graduate who just concluded a term as an alumni Regent. During her term, the Regents took action on such issues as affirmative action, the oversight of nuclear weapons laboratories, and the UCSF/Stanford hospital merger and dissolution. Regents, she says, "always kept the end goal in mind: What's in the best interest of the university?"

Paul Hall (Merrill '72) served as a UC Regent from July 1991 through June 1993. "The Regents have two primary functions," he points out. "They serve as public officers to oversee and advance the best public university in the world. They also serve on the board of directors of a huge business enterprise: If it were a private

corporation, UC would be among the top 50 in the *Fortune* 500. Their job is oversight, not micro-management."

During the UCSC alumni Regent's first year of service, from July 2003 to June 2004, he or she will attend all meetings and participate in policy discussions as a Regent-designate (without voting rights). The second year of service is as a voting Regent. Regents receive no stipend, but travel and some out-of-pocket expenses are covered.

This is the third time the UCSC Alumni Association will select an alumni Regent. Los Angeles Superior Court judge Allan J. Goodman (Stevenson '67) served as a UC Regent in 1979–81, and in 1991–93, the role was filled by Hall, an attorney with Nixon Peabody in San Francisco.

Application materials for the alumni Regent position are on the Alumni Association's web site, alumni.ucsc.edu. Candidates must submit an application packet by April 15, 2002. Finalists will be interviewed by the UCSC Regent Screening Committee and the UCSC Alumni Association Council.

For more information, contact the Alumni Association at (800) 933-SLUG.



UCSC PHOTO SERVICES

GENEROUS DONORS to the Alumni Association Scholarship Fund made possible \$2,500 scholarships for 16 financially needy students this year. They are (top row, l-r) Xochitl Casillas, Teresa Virgen, Roberta Eden Fineday, Robbin Stull, Stacy Williams, and Sam Ridino; (bottom row) Amber Leabey, Melissa Cardoza, Mohamad Warsame, Paula Susan McKenzie, Diana Shermoen, David Garcia, and Jennifer Weisberg. Not shown are Munish Manrao, Maria Page, and Brittney Yonan. To make a donation, contact Jennifer Wood, director of annual and special gifts, at (800) 933-SLUG.

ALUMNI NOTES

Cowell College

'67 **Robert BOYLES** has had a stroke and has aphasia; he is single and Christian.

'69 **Jane KENNER** is studying to become a psychoanalyst at the Psychoanalytic Institute of Northern California. **Don ROBERTS** received two first-prize awards at the Washington Poets Association's annual conference in May 2001; he works as a freelance proofreader and copyeditor in Seattle, where he lives with his wife, **Shelley MELTZER Roberts**, who attended Stevenson; they have two teenage daughters. **Larry ROBINSON** is married to Cynthia Kishi, and they live in Sebastopol, Calif., where Larry serves as mayor and practices ecopsychology. **Eric THIERMANN** is producing documentaries this year on winter in Yosemite, the Balkans, calypso music in Trinidad, contemporary ballet, and Pygmies from the Congo.

'70 **Stephen DREWES** has been teaching theater at the City College of San Francisco since 1989 and directing locally.

'71 **D. Barratt LUCAS Walton** is doing international theater projects; she had an original piece, cowritten with Irish actor Donal Merren, performed at the Edinburgh Fringe Festival in Scotland in August 2001.

'76 **Patricia ROSE** is on the community relations staff at South Humboldt Community Hospital; recently she raised \$1.6 million for an affordable housing project for seniors; she was diagnosed with breast cancer in April 2000, has undergone treatment, and has a good prognosis. **Ginger BURTON Whitehead** has two boys, ages 9 and 12, and is a high school teacher in Santa Maria, Calif.

Jared WILKINSON is a therapist and radio talk show host; presently he is also a househusband and an investor.

'79 **Rachel EPSTEIN** has been living in Anchorage for seven years, working as a special events coordinator at the University of Alaska.

Peter GILFORD wrote the lead article in the September 2000 issue of the journal *American Psychologist*; the article, titled "Will Managed Care Change Our Way of Being," was drawn from hermeneutic research on psychotherapy and managed care.

Janet STEIN Lazier had her fourth child in November 1999; she continues to run her business, Stein Investigation Agency, in Glendale, Calif., and is active in the PTA and the church.

'80 **Steven MAYERS** has worked as an administrative assistant at UCSF since 1992 and continues his freelance photography; he has three cats, Brea, Ramses, and Trojan. Several marriages (and children) later, **Katherine Anne SMITH** is now a frontline supervisor working for the state; she enjoys working with the public as well as assisting technicians in dealing with complicated laws and procedures.

'83 **Carol SUNDBORG** married Michael Curtiss in April 2001; she is working for a hospice foundation in the East Bay.

'85 **Humphrey CHAN** is a project consultant at the Federal Reserve in San Francisco; he still scuba dives and plays piano and would like to hear from old friends at freedive@my-deja.com.

'86 **Heidi RUDOLPH** is a technical recruiter for Rydek Computer Professionals.

'87 **Danielle HERRMANN** is senior director of administrative operations for the School of Engineering at Johns Hopkins University, where she is also a graduate student studying organizational and clinical counseling; her son is a freshman in the Honors Program at the University of Maryland, and she is buying her

first home. **Douglas REED** is an assistant professor of government at Georgetown University; his book, *On Equal Terms: The Constitutional Politics of Educational Opportunity*, was published by Princeton University Press in 2001; he credits Bob Meister's *Constitutional Law* class at UCSC with sparking his lifelong scholarly interest in Supreme Court cases related to poverty, race, education, and public school funding. **Melissa SANDERS-SELF** has a novel called "All That Lives" in press; her son Dylan is a high school student at Mount Madonna School in Watsonville and her son Luke is at the Santa Cruz Montessori School.

'89 **Robert MOOREHEAD** is a doctoral student in sociology at UC Davis, studying minority communities in Japan, and his wife, **Christina HOOVER Moorehead** (Cowell '89), is codirector of a Montessori school in Orangevale; they live in Davis with their two children.

'91 While working part-time as a senior corporate paralegal, **Steve GIBSON** is going to school full-time at UC Hastings College of the Law.

'92 **Carolyn Lee LAGER** is buying and fixing up an old house in San Anselmo, working at Levi Strauss & Company, painting, sculpting, and living life! "Always proud to be a UCSC alumni," she writes.

'94 **Heidi KLING** and her husband, **Daryn REICHERTER** (Cowell '94), have been living in New York for the past four years; Heidi recently received her M.F.A. in creative writing/writing for children from New School University in Greenwich Village; Daryn just graduated from medical school at New York Medical College and was accepted to Stanford University Hospital for his residency/internship in psychiatry. **Sara SNYDER Saldaña** teaches

third grade in San Francisco, and she is having fun with her young daughter, Kelly, born in March 2001. **Kevin WEHR** is completing a Ph.D. in sociology; his dissertation is titled "Dam Nation: The State of Nature and the Nature of the State in the American West."

'98 **Marcella NEWHOUSE** received her M.Sc. from McGill University and is now the HIV/AIDS surveillance epidemiologist for the state of Vermont.

'99 **James RILEY** is in graduate school in politics at the University of Geneva in Switzerland.

Stevenson College

'70 **Linda PALMER De La Ysla** is codirector of the Maryland Writing Project and an instructor of writing in the College of Education at Towson University, near Baltimore; she is also a doctoral candidate at the University of Maryland and the mother of two teenagers.

'74 **Richard LOESCH** is course manager at the National Interagency Civil-Military Institute (NICI) in the area of military support to civil authorities. **David Karl WHITE** finished residency training in psychiatry four years ago; he and his wife, Kelly, have three children.

'77 **Kelvin FILER** has bought a new house, and he is now a Superior Court commissioner. **Sandor NAGYSZALANCZY's** *Power Tools: Electrifying Celebration and Grounded Guide* was published by Taunton Press in 2001.

'79 **Kevin RENNER** has joined Planar Systems, where he is responsible for marketing the company's medical systems in the U.S. and Europe.

'81 **Sarah PARAD Rowen** and her husband **Larry ROWEN** (Stevenson '81) have been married 19 years and have two beautiful

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Gordon Wiltsie on his vertical commute to work

Photographer with an Altitude

Gordon Wiltsie (B.A., literature and creative writing, Kresge '75) photographs the icy ends of the Earth

STICKING WITH CHEMISTRY might have been a lot less dangerous, but then Gordon Wiltsie would never have explored the North Pole by dogsled, survived two avalanches in Kashmir, or found that lost tomb in the jungles of Peru.

"I think that's been the luckiest thing about my career. I get to do a lot of things that people would consider a once-in-a-lifetime experience," says freelance adventure photographer Wiltsie, whose work has appeared several times in *National Geographic*, as well as in many outdoor-adventure magazines.

It was at UCSC that Wiltsie—a chemistry major who transferred from Amherst College in Massachusetts in 1973—abandoned that field for creative writing and photography. A creative writing course his first quarter at UCSC, taught by author James D. Houston, followed by independent study for two quarters in Nepal,

ignited his new interest.

The time in Nepal, where he learned the language and went on various climbing trips, "was very much a life-changing experience," Wiltsie says. When he returned to UCSC, he threw himself into his new passion, selling stories and photographs while still in school. "I think I worked harder than even a chemistry major," he recalls.

Antarctica has exerted a special hold on Wiltsie for years, and the photographer considers the *National Geographic* cover story on a mountaineering expedition to Antarctica's Queen Maud Land his crowning achievement. The story was the culmination of eight trips he made to the continent. In addition to taking the photographs for the February 1998 story, Wiltsie conceived and organized the trip and raised the money that made it possible.

Covering climbing expeditions in remote areas has brought its share of close calls. While climbing on Canada's Baffin Island, inside the Arctic Circle (for a January 1999 *National Geographic* article), rocks as big as refrigerators tumbled all around Wiltsie's party.

"You spend enough time in the mountains, and rocks fall on you," he says matter-of-factly.

On assignment for *Ski* magazine, Wiltsie found a cross-country skiing trip in Kashmir with two friends even more harrowing. With one steep slope to go, "this avalanche roared down and swept us over a cliff." Bleeding profusely, Wiltsie blacked out for a time and suffered temporary amnesia. "My friends thought I might be paralyzed—until another avalanche came, and I ran for my life." Wiltsie sustained two crushed vertebrae, several broken ribs, and a concussion. Left with three single skis, Wiltsie and his friends took two days to ski and walk their way out. Their families were panicked, but the consummate photographer was especially upset because the avalanche had swept away his camera. "I was having con-nip-tions," he remembers.

Times like that, Wiltsie says, make him reflect on what he does. "I think you'd have to be out of your mind not to question it periodically. I don't think about abandoning photography, but I think about whether I really need to push things this hard." The mind plays tricks on him, though. Wiltsie says the "golden sieve of memory" causes him to forget the

worst parts of a trip. "It can transform infinite misery to the greatest experience of my life." As if to illustrate his point, Wiltsie notes that his Kashmir experience made "a very good story" that he sold to various publications and used in lectures.

Early on, Wiltsie developed a reputation for being almost impervious to cold, a trait that has served him well during trips to both poles, the Himalayan Mountains, and the Swiss Alps. But he has also experienced the world's warmer climates, having climbed in a remote desert region in China and rappelled down a remote Andes cliff to find ancient tombs in the jungles of Peru. (Wiltsie had to take some of the tomb pictures as he swung from a rope and spun in midair.)

When he's not off on an expedition, Wiltsie's time is taken up with short assignments, editing, and planning for the next adventure. The longtime Californian is now based in Bozeman, Montana, where he lives with his wife, Meredith, and sons Nick and Ben. (Meredith, who attended UCSC but graduated from UC Berkeley, is business manager for Wiltsie's company, Alpenimage Ltd.)

Wiltsie also serves as a cultural guide for National Geographic Exhibitions tours and is on the advisory board for the National Geographic Expeditions Council, which provides funding for various trips. His role as a guide reflects his interest not only in the mountains but in the people at the bases of those mountains. "I'm looking to concentrate more on worldwide environmental and cultural issues," he says, though he has no plans to abandon what he refers to as "the wild places."

In fact, Wiltsie points out there are plenty of climbs left on his to-do list. "The world is so big that the number of places I'd like to go is almost infinite." The Dolpo region of Nepal has always been of interest, he says, and then there's southern India, and he'd also like to see more of Africa. "I've never been to Australia. I'd like to go there, or to New Zealand...."

—LOUISE GILMORE DONAHUE

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children, Annie and Jake; Larry is vice president of marketing for *Sportscapsule.com*, and Sarah has a private practice working with the chronic mentally ill. **Wendy WEISS** is practicing acupuncture and Chinese medicine in Lake County, Calif.; she has also started a small gift business, Acme Beach-Animal Company, making sacred animal fetishes, sacred medicine bundles, and humorous and contemplative Banana Slug fetishes.

'82 **Jessica Dora** (previously **MOODY**) continues to reside in her hometown of Santa Barbara, where she is a teacher, counselor, and writer.

'83 **Ronald DAVISON** has a teenage daughter and an 11-year-old son and is enjoying both kids tremendously; he works with companies to accelerate their product development and has recently developed a task-engagement methodology to create more enjoyable work experiences.

'84 **Edith ROYAL** is teaching second grade at a federal school on Fort Stewart in Georgia and has begun a doctoral program in curriculum studies.

'85 **Stephanie DENMARK** is associate editor at *Consumer Reports Online*.

'87 **Kyria BIANCHI Osborne** earned her teaching credential from the College of Notre Dame in Belmont, Calif., and taught fourth grade for two years; she is married to Eric Osborne and is now a full-time mother. **Steven ROSENFELD** is working as an anesthesiologist in the beautiful state of Alaska; he is happily married and has two daughters.

'88 **Nancy BAIN** conducts in-service training on fetal alcohol syndrome, and she oversees teen pregnancy prevention programs; she also recently bought a house and got a puppy.

'90 **Leonard SCOGGIN** is working on his Ph.D. in music theory at the University of Wisconsin—Madison and living in Boston with his wife, who is working on her

doctorate in musicology at Boston University.

'91 After graduating from the University of San Francisco with a master's in sports management, **Seth BLACHER** is working at *DIAthletes.com*, which provides universities with online recruiting information.

'92 **Thomas CHANG** was one of 15 San Francisco artists, out of some 350 applicants, who received grants from The ArtCouncil, Inc., in July 2001; Chang's award was \$1,500. After attending grad school in San Diego, **Amy EVERITT** worked as the country manager for Southeast and North Asia at the U.S. Trade and Development Agency; now she is working at the Democratic National Committee. **Daria PENNINGTON** is teaching English at Saratoga High School in Saratoga, Calif. **Marcia WALL** is still living in New Orleans and recently started a private personal coaching practice; she can be reached via e-mail at wallmarcia@hotmail.com.

'93 **Shelley BJORNSTAD** has taken a position as producer of interactive projects with the Seattle-based advertising, design, and interactive agency Horton Lantz Morocco.

'94 **Gregor HARRIS** received a master's degree in social work in 1998 from San Jose State University.

'95 **Lucretia MILLER** is an editor, film camera assistant, and sound mixer; she is associate producer on CBS's *Survivor* and works for NFL Films, NBC Sports, and Fox.

Tlaloc RIVAS received a 2001–03 National Endowment for the Arts/Theater Communications Group Career Development Program grant for directors; he also received a 2001 directing fellowship from the Drama League in New York City.

'96 **Jason NELSON** recently purchased a house.

'97 **Dana WESPISER** has been teaching language arts and social studies to ESL middle school students in San Jose, while happily raising her daughter, Isabel.

'98 **Joshua CAULKINS** is teaching geology at Hunter College, CUNY, while studying geographic information systems and remote sensing within the geography master's program.

'99 **Lisbeth ESPINOSA** is a media buyer at Walker Advertising in Los Angeles.

Crown College

'70 **Gary HARROLD** is creating a satisfying life by teaching Hispanic adults, studying piano, being an environmental activist, growing organic pumpkins, doing yoga, and sprinting on nearby Rio Del Mar Beach.

'72 **Andrea ASARO** is a partner in a small San Francisco law firm specializing in civil rights litigation and complex commercial litigation; she's married to an environmental consultant, and they have a 14-year-old daughter, Emily.

'73 **Philip DRELL** is the director of community development in the city of Palm Desert, Calif.; he and his wife, **Dianne SUECHIKA** (Crown '71), have two children, Michael and Gina. **Randy FLICK** joined a start-up in Silicon Valley and is involved in foreign-language broadcasting via cable and broadband.

'75 **Claude ZACHARY** is working as university archivist at the University of Southern California and is active in the UCSC and UCLA Alumni Associations.

'77 After four years living and working in Italy, **Marc BOND** has returned to the U.K. with his wife and two children; he works as a consulting geophysicist with an energy company and has just published his first book, *International Relocation: A Practical Guide to Living and Working Overseas*. **Bob COLLENDER** is a senior financial economist with the USDA in Washington, D.C.; he has recently served as an expert witness in cases involving alleged racial discrimination by the government, and he chairs the Agricultural and Rural Finance Roundtable. **Ric FORRESTER** has

two daughters, Madelyne and Gwyneth, and had a third due in October 2000; he is manager of engineering services at a Silicon Valley start-up. **Stephen ROSE** has been appointed chair of the Health Law Department of the law firm Inslee, Best, Doezie and Ryder; he has two children, Andrew and Emily.

'79 After receiving an M.D. from UC Davis, **Janice LINN** now works for the Indian Health Service and lives on a 1,400-acre cattle ranch outside Billings, Mont. **Robert VALENTE** is living with his family in New Delhi, managing the Indian operations of an international business consulting firm.

'83 **Scott TEMPLETON** has moved to Clemson, S.C., where he is an assistant professor of economics at Clemson University; his research deals with sustainable development; although he is enjoying life in a small college town with friendly people and four seasons, he misses friends and the live-and-let-live attitude of people in the Bay Area.

Karen HUTCHINSON Wilbur has taken an extended leave of absence from her job as an internist in a large HMO in San Diego to stay home with her three young sons; she and her husband, Stan Wilbur, also an internist in the same HMO, recently celebrated their 10th anniversary.

'84 **Thomas TREVINO** is a corrections officer with the California Department of Corrections; he and his wife, Gloria Cienfuegos Trevino, were married in 1991 and have a son, Thomas, born in 1992.

'86 **Pauline DENGLER Darrow** and her husband, Andy, welcomed a daughter, Kathleen Elizabeth, into their family in August 2000; they are thoroughly enjoying parenthood. **Jennifer KOENIGS** has become a certified Beginning Teacher Support and Assessment (BTSA) support provider—a.k.a., a newfangled teacher mentor; her kids, she reports, are awesome and smart too. **Steven QUANDT** is a partner in forming and incorporating N-Space Technology, which

specializes in neural networking solutions; he and his wife, Lisa Jo Quandt, were married in 1995.

'90 **Jason HOFFMAN** is security manager for Veri Sign. **Jennifer NOONAN Horne** and her husband recently returned from a yearlong journey around the world, visiting 23 extraordinary countries; now they are settling back into life in Silicon Valley.

'91 In 2000, **Don GIBBS** and his wife, Lesley, celebrated the birth of their daughter, Maya Renee Gibbs, and both Don and Lesley completed master's of education programs through Trinity College of Vt.; now Lesley and Don teach and coach at Saint Johnsbury Academy, a private high school in Vermont.

'93 **Dana LONGO** is practicing law in Santa Barbara with an emphasis in real estate litigation and estate planning; he is still surfing, sailing, and skiing and can be reached at Dana@Longolawoffices.com.

Paul WARE was at New York Medical College in 1995–99, St. Luke's–Roosevelt Hospital Center in 1999–2000, and is now doing a residency in physical medicine and rehabilitation at Stanford; he and **Darien HERON** (Merrill '92) were married in May 1999.

'94 After teaching high school science for three years, **Leanne KETTERLIN Geller** has moved to Oregon to pursue a Ph.D. in educational leadership.

'95 **Diana KUSHIN** married **Ronan MANDEL** (Crown '93) in June 2000, and they are living in the Willow Glen area of San Jose.

'99 After traveling in China, **Marina BALDWIN** is living in San Jose and working; she would like to get in touch with old friends.

Merrill College

'71 **Catherine CIOFALO** is treasurer of the El Dorado County (Calif.) Search and Rescue Council Corporation, a training officer for El Dorado County Search Management Team, and a mission-ready trailing dog handler for the California Rescue Dog Association;

otherwise she's a typical computing nerd.

'72 **Benjamin DUNN** travels to Italy and Hawaii; he has also served on the Mission Street Widening Task Force in Santa Cruz. **Christopher PECK** has been a social worker in child welfare for the past 10 years.

'73 **David AMKRAUT** is an attorney in Los Angeles; his practice includes severe personal injury, copyright litigation, class actions, and various business litigation.

'74 **Jeanne LYONS** is a school psychologist for the Albuquerque public schools.

'75 **Donald ORTEZ** has retired as chair of the Latin American Studies Department at City College of San Francisco.

'76 **Ruth MACKAY's** book, *The Limits of Royal Authority* (Cambridge University Press, 1999), won the American Historical Association's Leo Gershoy Award for the best book in 17th- and 18th-century European history. **Shannon BRANDT Rowson** has worked in family practice and spinal-cord injury care; in 1986 she served with the International Medical Corps in Pakistan helping with Afghan refugees and training Afghan medics.

'77 **Kathy BRYON** is raising two boys, Noah and Jeremy, and participating in making her community all it can be in years to come.

'78 **Richard SERGAY** is senior producer of the Internet and technology unit at ABC News.

'79 **Sylvia MENDEZ** has worked as an educator for 21 years in the Pajaro Valley Unified School District; she was recently appointed principal of an elementary school.

'85 **Margaret-Ellen POWELL** is a real estate broker with Bailey Properties and a substitute teacher in elementary schools.

'86 **Suzanne ALLEN** is co-owner of a financial services brokerage, a published poet, and a model, hired by three agencies in Beverly Hills. After working for 10 years at Cabrillo College, **Victoria LUGO**

became the project director of career services at Mira Costa College in Oceanside, Calif., in March 2000; she loves her job and is happy to be back in sunny southern California.

'87 **Nancy NETHERLAND** is directing programs at MOCHA (Museum of Children's Art) in Oakland, taking programs funded by the NEA and the California Arts Council to inner-city school children.

'88 **Thomas CHU** is working in Hong Kong as a chief operating officer for a media/technology company. **Melissa GIBBS** received her Ph.D. in neurobiology and is now an assistant professor of biology at Stetson University, where she is also director of the Aquatic and Marine Biology Program.

'89 **Chance BROWN** is currently a senior training specialist in the Corporate Training and Development Department at AXA Financial in New York City. **Jay SHUBROOK** and his wife, Sam, married in 1993, and they have two daughters; Jay is a family physician and professor at Ohio University in Athens, Ohio.

'91 In 2000, **Jaxon Ravens (Daniel FITCH)** was elected president of the Young Democrats of Washington and also selected as "Rising Star of the Year" by the Washington State Democratic Party; he volunteers for the Red Cross and the United Way and planned to begin graduate studies at Thunderbird in Glendale, Ariz., in fall 2001.

'95 After working at California State University, Dominguez Hills, for two years, **Adriano AMAYA** has returned to the Central Coast to work at California State University, Monterey Bay. **Lynne NEAR** has been a bilingual teacher since 1997; last year she taught first grade at Mar Vista Elementary in Oxnard, Calif.

'97 **Denali Laurel McCULLOUGH** has been teaching Spanish for the past three years in San Jose.

Porter College

'73 **Jim HULL** teaches at the Braille Institute and performs in **Larry WILSON's** (Porter '75) magic show; his essays can be found at www.jimbull.com. **Tad KITADA** directs prevention programs for the Placer County Office of Education and teaches part-time at the UC Berkeley School of Social Welfare and at California State University, Sacramento.

'75 **Lori HIGA** is working as a public relations manager for Agere Systems and would love to hear from fellow College V alums at higa@agere.com.

'77 **Jaime JACINTO** completed an Ed.D. in international-multicultural education at the University of San Francisco in 2001, and he is on the faculty at San Francisco State University; his first book of poetry, *Heaven Is Just Another Country*, was a finalist for the Bay Area Book Reviewers Association award. **Thomas POSTER** is now working with the East L.A. Classic Theater Project, teaching middle school students in the greater L.A. area.

'78 **Martin GANTMAN's** artwork has been included in exhibitions in Los Angeles, Denver, New Haven, Tempe, Miami, and Chicago, and he has had a work installed at the Pyramid Hill Sculpture Park in Hamilton, Ohio; he has also coedited a book, *Benjamin's Blind Spot* (DAP Publications, 2001). **David MORI** was planning to work in Antarctica as a lead baker in the winter of 2001–02.

'79 **Judy SILK** is living the good life with her two daughters, Milly and Isak, and her composer husband, Jeff.

'80 **Lynn ERLICH Erfer** is now traveling with the Maui Visitors Bureau to promote Maui and train travel agents on the mainland.

'84 **Ann KOSHOWSKY Jensen** is director of human resources at a cemetery in Los Angeles as well as an ice skater and a photographer; she is married to Daniel Jensen, a

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geek and a dropout from the virtual class of '84.

'85 **Christopher GRABOWSKI** is an associate professor of drama at Vassar College; he has recently directed *Collected Stories* with Kristen Linklater at the Portland Stage Company in Maine; *Angels in America* at the Stella Adler Conservatory in New York City; and Euripides' *Helen* and Purcell's *Fairy Queen* at Vassar College.

Michael WALLENSTEIN passed the bar in February 2001 and is working as a litigator at Brown Winfield & Canzoneri in L.A.

'89 **Michael MOON** was planning to enter the M.B.A. program at the Yale School of Management as a Dean's Scholar in fall 2001.

'90 **Alissa ARNOLD Block** is married and living in L.A.; she has one child and another on the way.

'91 **Joseph BRYANT Jr.** was recently married; he has been named one of the most influential church leaders of the next generation by the National Association of Evangelical Churches.

'93 **Bernadette BOSINGER** sails and works in Santa Cruz; she recently sailed in the South Pacific, and she spent the summer of 2000 in France making perfume.

Elizabeth LAWRENCE and **Matt GRIFFITHS** (Porter '93) returned to Santa Cruz in May 2001 to get married; they met in Porter B dorm in 1989.

'94 **Nicholas ZAJCHOWSKI** is pursuing a master's degree in public administration nonprofit management at the University of Washington.

'96 **Jonathan CROCKETT** leads bicycle rides for Applied Computer Technology Corporation, plays violin in the local community college orchestra, and was preparing to do a triathlon in 2001. **Michelle D'ANGELO** was planning to begin vet school at UC Davis in fall 2001 with the intent of pursuing a specialization in small animal internal medicine—"just a small change from her theater major."

'97 **Nicole "Coco" MEDVITZ** earned an M.F.A. in acting from Pennsylvania State University in 2000; now she is working as a professional actor in Chicago.

'98 **Kate STAVERS** was planning to take a yearlong trip around the world and participate in community service projects. After marrying **Amy VANDERBUNDT** (Porter '98), **James MOCKOSKI** received a master's in film studies and archiving at the University of East Anglia in England; he is currently working at the UCLA Film and Television Archive as a film lab technician.

'99 After serving as a TA in the Art History Department at UCSC for a year, **Mahlon CHUTE** was planning to begin graduate studies in architectural history at UC Santa Barbara in fall 2001.

Kresge College

'75 **Bobbi HOOVER** has retired from practicing psychotherapy and is volunteering with Hospice of the Valley doing bereavement work; she was also planning for her 50th wedding anniversary in October 2001. **Victoria KIRSCH** is collaborating with soprano Julia Migenes on a show titled "Diva on the Verge," which is touring the U.S. and Europe; she is married to Michael Alexander, a leading arts advocate and director of Grand Performances in downtown Los Angeles. **Donald MOINE** has written a series of articles for *TMCnet.com* on how readers can save hundreds of thousands of dollars on the value of their stock options.

'80 **Chris BELETIS** is a psychologist in La Jolla, Calif.; he has returned from a trip around the world and would like to hear from old Kresge friends at Cjbeletis@yahoo.com.

'82 **Traci STYNER Schaible** is working on web-based training and a master's program in interactive telecommunications; she is raising her seven-year-old daughter, Katie.

'84 **Mark ARNIOLA** married Darnell Basque in May 2000.

James SCHWEITZER is president of the Brea Historical Society and an officer in the Lions Club District 4-L4.

'85 **Robin GROESBECK** is manager of exhibition coordination at the Field Museum in Chicago.

'86 **Lori LANDER Goodman** is working as a substitute teacher in the San Mateo School District; she published an article in an online magazine in 2000.

'89 **Andrea BREUNER** started physician assistant school in September 2000; she lives with her partner, Tammy Bare, on Beacon Hill in Seattle. **Beth LILACH** is a doctoral candidate in Holocaust history at Clark University; her dissertation focuses on displaced-persons camps with regard to gender and age.

'91 **Andre DOUMITT** has taken a position with Bell/Agusta Aerospace, where he serves as global market development manager for two new aircraft.

'92 **Thuy DAO-Jensen** is working on a Ph.D. in curriculum and instruction at Arizona State University.

'95 **Robert SCHMITT** has been promoted from associate attorney to deputy city attorney in the Roseville City Attorney's Office.

'98 **Katie AGGEN** is an administrative manager at *Excite@Home*, and she is pursuing a professional dancing career in San Francisco. After working for BMW in Munich, **Beth MANNING** is pursuing an M.I.S. degree at UC Berkeley. **Alfredo ZUANY** received his master's in college counseling from the University of San Diego and is presently working as a college counselor with disadvantaged students at a nonprofit organization in East Los Angeles.

'99 **David CHIAN** is working in the field of molecular epidemiology and autism and plans to attend Columbia University in fall 2002.

Sonia CRUZ is a copy editor at a Spanish newspaper; she is also taking classes at California State University, Bakersfield, to get her

teaching credential. **Juliette KUSHNER** earned an M.A. in communication studies at California State University, Chico, in 2001; she is now working for Coastline Community College and plans to never leave academia.

Oakes College

'81 **Tim STROSHANE** works for the City of Berkeley Housing Department; he has also started a newsletter called *SPILLWAY: California Water, Land and People*.

'82 **Ervin SIMMONS** is a coordinator with the Department of Juvenile Justice in Savannah, Ga.; he and his wife, Mary, a middle school teacher, have three children: Ray Robinson, who is #5 on the North Carolina State football team; Ervin Jr., who graduated with honors from Clark-Atlanta University; and daughter Bahiya, who is an honor student in the 10th grade.

'83 **Troy TINSLEY** is a pilot with United Airlines and looking to contact the 1982-83 Derelicts Ultimate Frisbee team; alums may contact him at Gonridn2@aol.com.

'84 After receiving his Ph.D. in immunology from Stanford University in 1997 and taking six months off to travel, **Gregory FRANK** did pharmaceutical management consulting at Plan A in Palo Alto, Calif.; he is currently director of business development at Metazoa Systems.

'87 After graduating from USC medical school in 1994 and doing his residency at L.A. County-USC Hospital, **Francisco ORNELAS** is now practicing medicine at several hospitals. **Jana SHOHAT** married **Robert BUSBY** (Cowell '86) and both received their master's degrees in 1993; Rob works for the State of California as a geologist, and Jana stays home and writes grants part-time; they have two children.

'90 **Nadine GRETHE** bought a house in northeastern Pennsylvania and is working on phase three of clinical trials in the anti-infectives division of Aventis Pharmaceuticals;

she's also working on her master's in clinical pharmacology. **Jessica Vidican-NEISIUS** has been making Morning Glory Chai in Seattle for six years and practicing as a village witch herbalist at Tenzing Momo in the Pike Place Market on and off during that time.

'91 **Becky Kate MANSFIELD** received her Ph.D. in geography from the University of Oregon in 2001 and has moved, with her husband, **Gary ALLISON** (College Eight '91), to Ohio to take a job as an assistant professor of geography at Ohio State University; she does research on the political economy of fisheries and the global seafood industry.

'92 After graduate school in Washington, D.C., followed by a one-year public policy fellowship to study the impact of federal legislation on local communities, **Carmen LEPE Joge** served as senior policy analyst for the National Council of La Raza, leading its civil rights policy agenda; she got married in 1996 and now works with the Congressional Hispanic Caucus Institute in charge of training the next generation of Latino leaders. **Kirsten LISKE** is playing soccer, helping grow and run Ecology Action in Santa Cruz, and living as sustainable a lifestyle as possible.

'96 **Corinne TAYLOR-Cyngiser** recently finished traveling the world and is happy to be back in the redwoods and working at the UCSC Women's Studies Department.

'99 **Terran BROWN** completed an M.S. in statistics at UC Davis and is now teaching statistics at Cal Poly, San Luis Obispo.

Tamarra JONES was planning to finish a master's program in public health education at Loma Linda University in June 2001.

College Eight

'78 **Paul HANDLEMAN** is living and working inside the Beltway, keeping taxpayers on their toes.

'81 **Mark KLINE** runs a small receptive incentive travel company

based in New York City where he lives.

'83 **Lisa DABEK** is the director of conservation and research at the Roger Williams Park Zoo in Providence, R.I.; since 1994 she has also been directing a community-based conservation program in Papua New Guinea, helping to protect rain-forest habitat and wildlife. Since 1998 **Matthew SUNDT** has been owner/principal of Golden State Planning and Environmental Consulting with his wife as partner; they live and work in Monterey.

'85 **Joanne GRAMO** is a licensed acupuncturist.

'88 **Debra MORSTEIN Sloss** is a marriage-family therapist intern and the mother of three beautiful boys.

'89 **Julia KARP** and her husband, **Robert JACKMAN** (Porter '88), have lived in Florida, Connecticut, and now in Klamath Falls, Ore., where Julia is pursuing a career as a full-time mother to their two children. **Trevor SIEGEL** is a percussionist and a senior systems analyst and software engineer.

'91 After receiving an M.S. in traditional Chinese medicine from Pacific College of Oriental Medicine in San Diego in April 2001, **Patricia JACKSON** was planning to start an acupuncture practice in the San Diego area.

'93 **Raul ESSIG** is doing special effects for the film industry.

George MEGENNEY is working on his Ph.D. in history out of UC Riverside; he is researching the activities of covert German operatives within Spain during the Spanish Civil War and World War II.

'94 **Michelle MERRILL** is working on a Ph.D. in biological anthropology and anatomy at Duke University; she spent six months in 1999 on Sumatra (Indonesia) studying orangutans in the wild. **Monica Sequoia NEIRO** is a massage therapist living with her partner, Nicholas O'Connor, and baby boy, Raphiel Marcus, born in June 2001.

Douglas KEEHN was planning to enter the Public Interest Law and

Policy Program at UCLA School of Law in fall 2001. **Sako KITSINIAN**

served as a Peace Corps volunteer in Mali, West Africa, in 1995-97; since 1998 he has been manager of the 14 Karat Club in Honolulu.

'95 **Daniel HEFFERNAN** is a research assistant in the Department of Fishery and Wildlife Biology in the College of Natural Resources at Colorado State University.

'96 **Ilian FIGUEROA Emmons** works as a manager for Deloitte & Touche and is pursuing her M.B.A./M.I.S. at the University of San Diego. **Roberta HAVER** is a watershed consultant for a Santa Cruz group dedicated to improving water quality, protecting fish and wildlife habitat, and enhancing the environment throughout the Arana Gulch watershed. **Amber PAIRIS** is in a Ph.D. program in environmental studies at Antioch New England Graduate School; in October 2001, she received a Switzer Environmental Fellowship for outstanding young environmental leaders, which she will use to evaluate the Natural Communities Conservation Planning Program in southern California as a model for future planning processes around the country.

'97 **Derrick CHUA** will be finishing a D.M.D./M.B.A. program this year and starting a practice in cosmetic and family dentistry in the San Francisco Bay Area; for consultations, he can be reached at dochu@hotmail.com.

'98 After a brief career in marketing, **Shannon HERMANSON** is teaching elementary school students at the French American School in Woodland Hills, Calif.; she is also pursuing a master's in education and a teaching credential in a combined program at Pepperdine University.

'99 **Michelle LYNAR** lives in Washington, D.C., and works at the U.S. Department of Energy as an environmental policy analyst; she is also pursuing an M.A. degree in city planning at the University of Maryland, College Park.

Graduate Studies

'79 **Thomas CARTELLI** (Ph.D., literature) has published a book titled *Repositioning Shakespeare: National Formations, Postcolonial Appropriations* (London: Routledge, 1999).

'84 **James GURLEY** (M.A., literature) gave an address, titled "Love as Source and Image in *Leaves of Grass*," at the annual conference of the Walt Whitman Society of Japan in October 2000 at Kyoto University.

'92 **Scott TREIBER** (Ph.D., biology) is director of clinical research at PharmaNet, an international drug development company.

'93 **Lisa STRONG-AUFHAUSER** (cert., science communication) has started a small digital video production company called Strong Mountain Productions, which specializes in science, nature, history, and outdoor projects; clients so far have included the Yosemite Association, the Exploratorium, the Pacific Grove Museum of Natural History, and *Discovery Channel online*.

In Memoriam

Jefferson MARTIN (Porter '00), a native of Oakland, a championship wrestler, and a lover of the outdoors who served in the Coast Guard in the Bay Area, Tahoe, and Cuba, died June 26, 2001, in Santa Cruz at age 40.

Timothy ROUFAEL (Oakes '91), who worked as a writer-producer for Lonely Planet Publications and was the founder and proprietor of a bicycle-repair business, died October 4, 2001, as a result of injuries sustained in a traffic accident.

Atsushi SHIRATORI (Merrill '89) died as a result of the September 11 terrorist attacks in New York; he worked at Cantor Fitzgerald, a New York firm with offices in the World Trade Center.

Stephen WOODFIN (Crown '71) died October 17, 2000; he was 51.



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