UC SANTA CRUZ

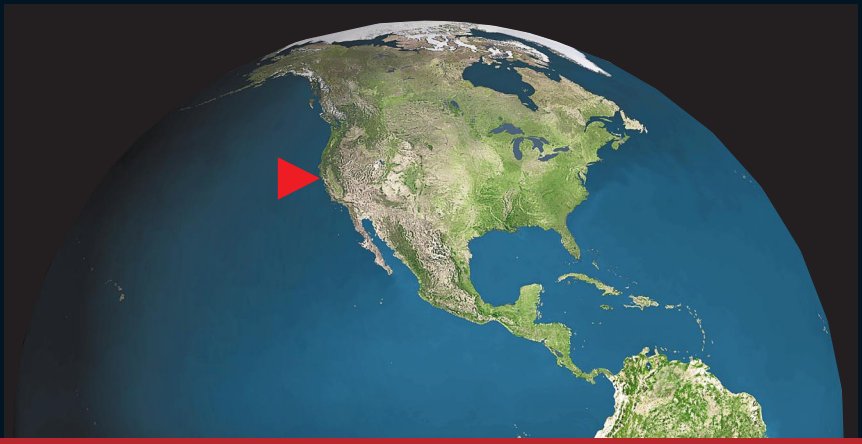
Winter 2000

R E V I E W

AS A NEW MILLENNIUM Dawns

UC Santa Cruz is uniquely poised to make a difference

Artistic Expression
Biotechnology
Communications
Environment
Frontiers of Space
Global Economics
K-12 Education
Race Relations



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From the Chancellor

By M.R.C. Greenwood

For people around the world, the arrival of Year 2000 on January 1 represented a milestone in human history. As chancellor of UC Santa Cruz, it provided me with a special opportunity to reflect on the state of the campus, its people, and its programs as we move from one millennium to the next.

More specifically, this transition prompted me to reflect on one simple but important question: To what extent is our campus, through its teaching, research, and public service, prepared to help society tackle the tremendous challenges it will face in the early years of the new millennium?

One way for campuses like ours to answer that question is by participating in cross-institutional measurements that gauge quality. By these statistical assessments alone, it's clear that UCSC—in its relatively short 35-year history—has become a campus of great distinction. In the most recent survey to come to my attention, a 1999 assessment of Association of American Universities schools, UCSC is ranked 15th for the rate at which recipients of its bachelor's degrees go on to achieve doctorates.

Numerous other statistical comparisons also speak to UCSC's quality: The 1997 analysis of more than 200 top American universities that ranked UCSC 11th in the nation among public campuses in the overall quality of its research productivity; or the one-time survey measuring the quality of undergraduate instruction, published in 1995 by *U.S. News & World Report,* which ranked UCSC 13th among U.S. universities.

DON HARRIS

The fields to which UCSC makes significant contributions are diverse indeed. But the people behind those achievements have much in common. Their scholarship is innovative, collaborative, and distinguished by the difference it will make in our knowledge and quality of life.

But the more revealing answer to my Year 2000 question is found by taking a closer look at the UCSC people behind these impressive statistics—and at the important contributions they are making in a large number of academic fields.

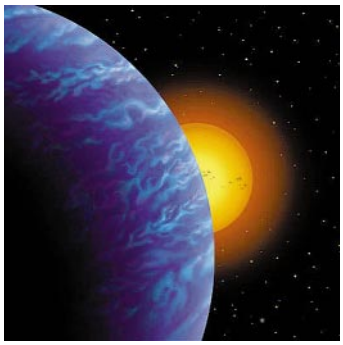
In this issue of the *Review,* we focus on some of the fields that, in the early years of the new millennium, will challenge our resolve and stimulate our imagination: the environment, biotechnology, race relations, K–12 education, communications, global economics, artistic expression, and the frontiers of space.

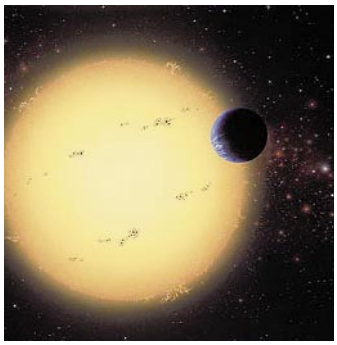
In the process, we turn the spotlight on only a few of the many UCSC scholars whose work is helping shape these critical areas of inquiry.

The fields to which UCSC makes significant contributions are diverse indeed. But the people behind those achievements have much in common. Their scholarship is innovative, collaborative, and distinguished by the difference it will make in our knowledge and quality of life.

M.R.C. Greenwood
Chancellor

Campus Update





© LYNETTE COOK

Astronomer Steven Vogt and his collaborators, including alumnus Geoffrey Marcy, have discovered six new planets outside our solar system. In addition, the researchers have uncovered evidence suggesting that two previously discovered planets (depicted in the illustrations, above) have companions orbiting the same star.

Astronomers discover six new planets

The world's most prolific team of planet hunters has found six new planets orbiting nearby stars, bringing the total number of planets astronomers have detected outside the solar system to 29. The researchers also found evidence suggesting that two previously discovered planets have additional companions, said Steven Vogt, UCSC professor of astronomy and astrophysics.

Vogt and his colleagues, UCSC alumnus Geoffrey Marcy, now of UC Berkeley, Paul Butler of the Department of Terrestrial Magnetism at the Carnegie Institution of Washington, D.C., and Kevin Apps of the University of Sussex, England, made the discoveries using the "HIRES" spectrometer on the Keck I Telescope in Hawaii. Their findings will be published in the *Astrophysical Journal.*

The researchers have been using the facilities at the W. M. Keck Observatory for the past three years to conduct a survey of 500 nearby sunlike stars in search of planets. The project is supported by the NASA Origins Program, which has provided both funding and telescope time, and by the National Science Foundation.

The six new planets increase by about 25 percent the number of known "extrasolar" planets, giving astronomers a substantial amount of additional information about planetary systems, Vogt said. One of the planets, HD 192263, was also recently detected by Nuno Santos and collaborators in Geneva, Switzerland, who reported it while Vogt and his colleagues were preparing their paper.

Plans moving ahead on UCSC regional center

As the academic planning process gets under way to establish a UCSC regional center in the Santa Clara Valley, faculty and administrators are working together to embrace the opportunities and address the challenges that face the campus as it seeks to become the "UC of Silicon Valley."

During an Academic Senate forum on the regional center in November, Executive Vice Chancellor and Campus Provost John Simpson announced the formation of an academic planning committee that will develop a framework for the academic activities associated with the center.

Plans for the new UCSC facility have progressed since the idea was first proposed by members of the Millennium Committee. Since then, a task force has assessed UCSC activities in the region with an eye toward building on strengths and satisfying unmet needs.

A regional center would augment and enhance the offerings of the main campus by providing research, teaching, and community service opportunities for UCSC faculty, students, and staff, while also raising UCSC's profile in the region. A site analysis is under way.

"In Silicon Valley, what we have to offer complements alliances and affiliations that will be valuable for faculty, researchers, and students," said Chancellor M.R.C. Greenwood.

Adaptive optics center will be based at UCSC

UCSC has been selected to lead a multi-institutional partnership to advance the field of adaptive optics, which promises to revolutionize astronomy and vision science.

The National Science Foundation's governing body, the National Science Board, has approved a proposal to establish a Center for Adaptive Optics at UCSC. The multi-institutional center will coordinate the efforts of researchers across the country involved in the field of adaptive optics.

The Center for Adaptive Optics is one of five National Science Foundation science and technology centers approved this past year. NSF guidelines allow for commitments of up to $20 million over five years.

BARBARA MCKENNA

Town and Gown *Chancellor Greenwood and representatives from the city of Santa Cruz came together in November to dedicate the University Town Center, above. The new five-story building is located in the heart of downtown Santa Cruz on the site of the former Ford's Department Store, which was destroyed in the 1989 Loma Prieta earthquake. The new building provides space for UCSC programs as well as for private retailers and other businesses. Those from UCSC using the building include UCSC Extension. The top two floors provide 54 residential apartments for regularly enrolled UCSC students and students in extension's English Language International Program.*

COVELLO & COVELLO

Pedro Castillo

UCSC historian appointed to NEH

A UCSC HISTORIAN is one of five people to be named by President Clinton to serve on the 26-member board of the National Endowment for the Humanities.

Pedro Castillo, an associate professor of history, was selected to serve on the National Council on the Humanities, the advisory board of the National Endowment for the Humanities (NEH). The national council advises NEH Chairman William Ferris on policies and programs and grant allocations. Members serve six-year terms.

Castillo is well prepared for his new duties, having served as a member of the California Council for the Humanities. Among his priorities as a council member will be to support research in nontraditional subject areas examining such issues as race, class, and gender.

Castillo is cofounder and a former director of UCSC's Chicano/Latino Research Center. His teaching and research focus on the history and politics of Mexican Americans in the United States.

His most recent book is *The American Nation,* a textbook on American history that has been adopted by a number of school districts for their junior high school curricula.

Primitive flowering plants live at UCSC

AT THE INTERNATIONAL Botanical Congress in St. Louis last summer, a team of researchers presented genetic evidence that the most primitive living flowering plant is an obscure species called *Amborella trichopoda.* For botanists wanting to study *Amborella,* there is only one place in the U.S. that can provide specimen material: the UCSC Arboretum.

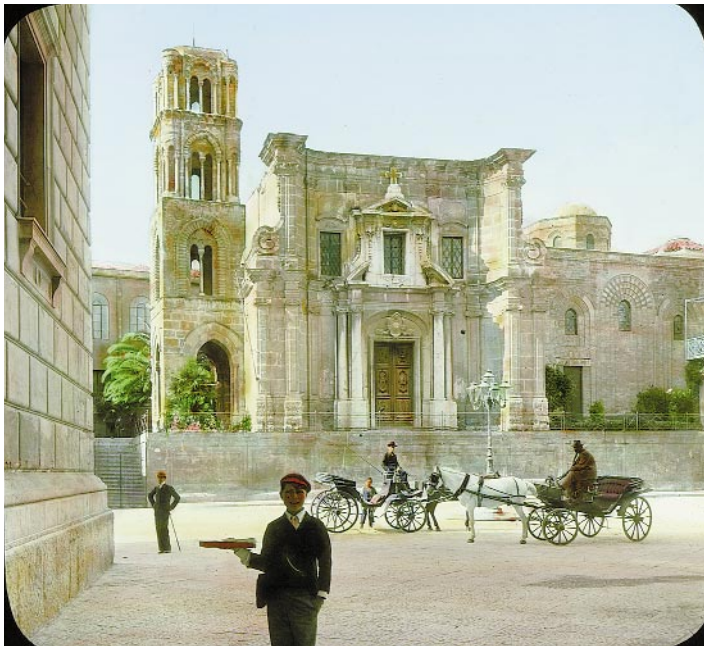
Amborella, a small shrub with tiny greenish-yellow flowers and red fruit, grows in the wild only on the South Pacific island of New Caledonia.

Virginia and Todd Keeler-Wolf traveled to New Caledonia in 1975 when they were students at UCSC and, under founding Arboretum director Ray Collett's guidance, shipped back some samples of *Amborella.*

TIM STEPHENS

Arboretum manager Brett Hall, with one of the Amborella *plants*

BRANSON DECOU



Since 1971, Slide Collections in the University Library has been the home of the archive of photographer Branson DeCou. But, because DeCou produced mainly lantern slides, the delicate and dated format of the slides (imprinted on glass and twice as big as 35-mm slides) made them impractical for general use. Now, the DeCou slides are going from obsolete to cutting edge in one fell swoop, thanks to a grant from a New York foundation. The $14,000 grant comes from the Gladys Krieble Delmas Foundation and will fund the purchase of a state-of-the-art slide scanner and the scanning, researching, and cataloguing of 1,000 of the 10,000 DeCou slides in the collection. The slides are ones that portray life in Italy, a special area of interest for the Delmas Foundation.

Alumna named state's professor of year

JULIE GLASS, a mathematics instructor at California State University, Hayward, who received her master's degree and Ph.D. in mathematics from UCSC, has been named the 1999 California Professor of the Year by the Carnegie Foundation for the Advancement of Teaching.

Glass, 32, has been an assistant professor at CSU Hayward since 1994. She hosts a cable television program devoted to college algebra, has authored math-oriented children's books, and is cofounder of a math and science day camp for school-age girls. She teaches two courses at CSU Hayward: introduction to proofs and math for business and social scientists.

Glass has appeared on two programs on the university's television station: *Math on TV,* a video course to help high school students prepare for math placement exams; and *College Algebra,* a course offered for credit.

Electrical engineer receives $625,000 Packard fellowship

For the sixth consecutive year, a UCSC researcher has garnered one of the nation's most prestigious honors for young faculty members: a David and Lucile Packard Fellowship for Science and Engineering, worth a total of $625,000.

Ali Shakouri, an assistant professor of electrical engineering in the Jack Baskin School of Engineering, will receive $125,000 per year for the next five years to support his pioneering research on semiconductor physics and optical communication systems. The Packard Foundation awards these fellowships to young scientists and engineers who show exceptional promise and creativity.

Shakouri's research on the electrical, optical, and thermal properties of semiconductors has many potential applications, such as improving the performance of electronic devices, increasing the speed of fiber-optic networks, and developing novel devices with new functions and applications.

The Packard Fellowship program is intended to provide support for unusually creative science and engineering researchers early in their careers.

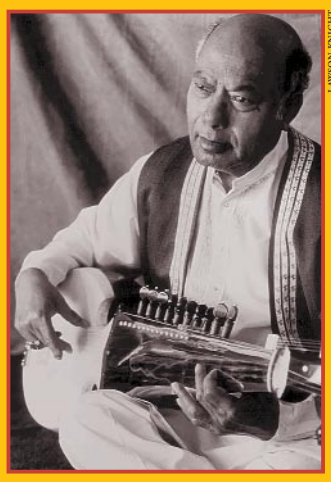
Ali Shakouri

VICTOR SCHIFFRIN

Ali Akbar Khan accepts UCSC post

Sarod master Ali Akbar Khan, considered to be one of the world's greatest living musicians, has been named distinguished adjunct professor of music at UC Santa Cruz.

A "national living treasure" of India, Khan is regarded as the most accomplished interpreter of Indian classical music alive today. Khan accepted his UCSC appointment in September. His first formal activity with UCSC was a public concert in the Music Center Recital Hall in October.



LAWSON KNIGHT

Ali Akbar Khan

"We feel very privileged to have the opportunity of collaborating with such an extraordinary artist," said Edward Houghton, dean of the Arts Division. "Khansahib is not only an outstanding musician and dedicated teacher but also the heir and principal exemplar of a long and distinguished musical tradition. He will be a remarkable resource for our students and for our expanding programs in the arts and cultures of India."

"This is a very unique collaboration between the university and my college," Khan said. "I'm very happy we will be working together. In my family, the knowledge and tradition of this music is very important, and I want to be able to pass that on to future generations."

Marine center prepares for March opening

The Seymour Center at Long Marine Laboratory is buzzing with activity as the new public education center prepares for its grand opening in March. The installation of aquariums and exhibits is under way, staff have moved into the office space, and marine biology classes are using the facility's new teaching laboratory.

The Seymour Center will enable Long Marine Lab to greatly expand its popular public education programs. With exhibits focusing on the work of researchers at the Institute of Marine Sciences, which operates Long Marine Lab, the center will give schoolchildren and the general public a unique view into the workings of a world-class marine research laboratory.

"This is a very exciting time now that all the pieces are starting to come together," said Seymour Center director Julie Barrett Heffington.

Private donations funded nearly all of the project's $6.25 million cost, including a cornerstone contribution from H. Boyd Seymour Jr. of San Francisco. Seymour's gift of $2 million honors his father, Harry Boyd Seymour, and his grandfather, Arthur McArthur Seymour. Numerous other individuals and foundations made significant gifts.

TIM STEPHENS

Students Birru Morgan and F. Blaine Rhobotham examine fish skulls in the center's teaching lab.

The exhibits and aquariums at the Seymour Center will have a very different look and feel from those at other public aquariums, such as the Monterey Bay Aquarium. The emphasis will be on scientists and how they study the ocean, Heffington said. The exhibit space will look something like a research laboratory, and interactive stations will provide "hands-on" experiences.

Academic Senate debates 'narratives'

Meeting in December, UCSC's Academic Senate postponed a vote on the campus's traditional Narrative Evaluation System (NES).

The senate, voting 80–79, moved the matter to its Committee on Educational Policy (CEP) and Graduate Council for consideration.

The meeting was prompted by a petition signed by more than 170 members of the senate who recommended that the NES be replaced by the conventional UC grading system. "The Narrative Evaluation System has an honorable history, but times have changed and a new approach to grading is required," the petitioners said.

The discussion over NES continued in January, as several campus forums on the matter were scheduled to take place.

George Brown, CEP chair, said a report on his committee's evaluation of the 35-year-old tradition would be forthcoming at the February 23 meeting of the senate.

UCSC leads effort to offer AP courses online

In an effort to reach out to California high school students who can't take advanced placement courses at their own school, UC Santa Cruz is leading a systemwide effort to make AP courses available online to students around the state.

Dozens of public high schools in the state offer no advanced placement (AP) courses at all, and many offer four or fewer AP courses, according to Elaine Wheeler, project director of UC's College Prep Initiative (UCCP). The goal of the program is to make AP course materials available to students who would otherwise have no access to them.

The UCSC-based distance learning project began in fall 1998 with a pilot effort that reached 64 students in 14 schools. In fall 1999, the program expanded to about 200 students in seven counties: San Diego, Imperial, Merced, Fresno, Santa Cruz, Mariposa, and Santa Clara.

Francisco Hernandez, vice chancellor for student affairs at UCSC, came up with the idea of using the Internet to help fill the gap in course offerings at schools around the state. "This is an efficient and cost-effective way to deliver AP and college prep classes," said Hernandez, who continues to lead the project. "Other campuses are eager to sponsor similar programs, but UCSC has emerged as the systemwide leader."

UC President Richard C. Atkinson provides $400,000 a year in ongoing support, and the state legislature recently approved an additional $3 million for the one-time development of additional courses and $1 million in ongoing funds for implementation and dissemination on a broader scale.

The project has the potential to reach thousands of students around the state who would otherwise lack the opportunity to take AP classes. Those courses can boost a student's grade-point average and enhance his or her application when applying to the University of California.

Alumni Association names award winners

A biology professor, the department assistant for women's studies, and an alumnus who was an environmental biologist defending the human rights of indigenous people in Colombia have won the top awards given annually by UCSC's Alumni Association.

Barry Bowman, Nicolette Czarrunchick, and Terence Unity Freitas, the first person to receive an association award posthumously, were nominated by students, alumni, faculty, and staff; the three were selected by the UCSC Alumni Association Council.

At press time, they were scheduled to be honored at a luncheon on campus on February 5.

Barry Bowman, a biology professor, won the Distinguished Teaching Award. Current and former students and colleagues characterized Bowman as a supportive, yet challenging, mentor to junior faculty, undergraduates, and graduate students.

COURTESY OF JULIE FREITAS

Terence Freitas

DON HARRIS

Nicolette Czarrunchick

DON HARRIS

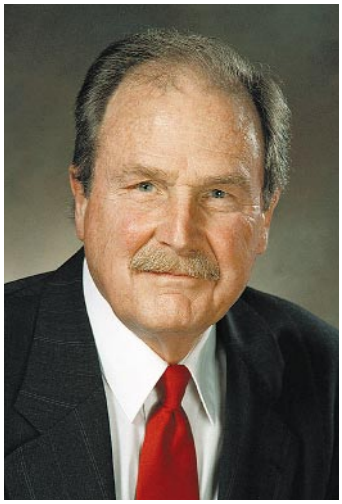
Barry Bowman

Nicolette Czarrunchick, who won the Outstanding Staff Award and has worked for the Women's Studies Department as manager for 15 years, was praised for her "unfailing empathy, enthusiasm, and expertise."

Terence Unity Freitas, a 1997 B.A. recipient in biology and environmental studies, won the Alumni Achievement Award for his work with the U'wa people of Colombia. Freitas was a key activist who tried to halt the plans of Shell Oil Company and Occidental Petroleum to drill in U'wa territory. He helped establish the U'wa Defense Working Group, a coalition of several environmental organizations.

Last winter, while working with the U'wa to set up a culturally appropriate school, Freitas and two other Americans were kidnapped and killed by Colombia's largest rebel group.

In Memoriam



UCSC PHOTO SERVICES

David Huffman

David A. Huffman, the founding faculty member of UCSC's Computer Science Department and a pioneer in the field, died at a Santa Cruz hospital in October after a ten-month battle with cancer. He was 74.

Huffman is probably best known for the development of the Huffman Coding Procedure, the result of a term paper he wrote while a graduate student at the Massachusetts Institute of Technology.

"Huffman Codes" are used in nearly every application that involves the compression and transmission of digital data, such as fax machines, modems, computer networks, and high-definition television.

In 1967, he came to UCSC as the founding faculty member of the Computer Science Department. He played a major role in the development of the department's academic programs and the hiring of its faculty, and served as chair from 1970 to 1973.

He retired in 1994, but remained active until recently as an emeritus professor, teaching information theory and signal analysis courses.

A memorial service for David Huffman took place on campus in October.

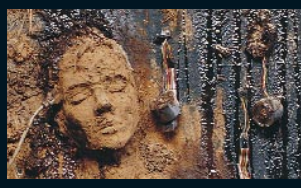
AS A NEW MILLENN

Global Economics

Frontiers of Space

Environment

Artistic Expression

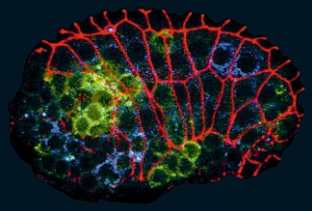


IUM

Dawns,

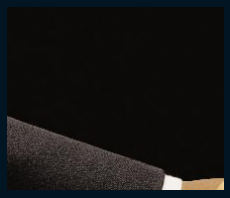
UC SANTA CRUZ SCHOLARS

are making major contributions to fields that will influence the development of society in the next 1,000 years . . . areas of inquiry that, for the common good, will require individual imagination and collective commitment . . . scholarship that will be tied to our economic vitality, the fight against 21st-century disease, or the sustainability of our planet's ecosystems . . . research that will enable us to more easily communicate with others, or understand ourselves. The pages that follow spotlight eight such fields—and a few of the many UCSC people whose ideas and expertise make us optimistic about the new millennium.



Biotechnology

Race Relations



Communications

K-12 Education

deep space, deep time

Frontiers of Space

R. WILLIAMS AND THE HUBBLE DEEP FIELD TEAM AND NASA

R. R. JONES

Astronomer Sandra Faber stands before the Hubble Deep Field, an image taken in 1995 that focused on a tiny, random patch of sky and revealed the most distant galaxies ever seen. The faintest objects show us galaxies as they were long ago– some 12 billion years back in time.

A team of astronomers at UC Santa Cruz has embarked on a journey back in time to map the universe as it was billions of years ago. Using the unique capabilities of the Hubble Space Telescope and the W. M. Keck Observatory in Hawaii, the researchers have begun the most comprehensive survey of distant galaxies ever attempted.

The heart of the project is a survey of around 50,000 faint galaxies. Light from these remote galaxies has taken billions of years to reach earth, enabling astronomers to study the universe when it was about half its current age, long before earth and the rest of the solar system came into being.

"We will be able to compare distant galaxies with local galaxies to understand how they formed and evolved over time," says Sandra Faber, University Professor of Astronomy and Astrophysics.

"From the way galaxies are distributed and their motions we can get clues to the geometry of the universe, whether the expansion of the universe is accelerating, and how it will change over time."

—David Koo

The project, called the Deep Extragalactic Evolutionary Probe, or DEEP, was conceived almost ten years ago by Faber and two of her colleagues, professors of astronomy and astrophysics David Koo and Garth Illingworth. Collaborators include other researchers at UCSC and experts at several other universities, including UC Berkeley, the California Institute of Technology, and the University of Hawaii.

The DEEP project's findings will help answer fundamental questions about the origins of the universe and its ultimate destiny.

"We're interested in not only the properties of the individual galaxies, but also how they relate to one another, whether they are grouped into little villages of galaxies or big cities," Koo says. "From the way galaxies are distributed and their motions we can get clues to the geometry of the universe, whether the expansion of the universe is accelerating, and how it will change over time."

The bulk of the DEEP project's observations will be obtained with the ultra-efficient DEIMOS spectrograph, currently under construction at UCSC under Faber's direction and scheduled to begin operation on the Keck II Telescope late this year. A spectrograph separates the light from a distant object into a spectrum of different wavelengths, much like a prism breaks up sunlight into a rainbow of colors. From the spectrum, astronomers can determine critical information about a galaxy, including its distance and internal dynamics.

DEIMOS will be able to gather spectra seven times faster than the Keck Observatory's current instruments, which the researchers have used to survey about 1,000 galaxies so far.

Just as important as the spectra obtained at Keck are images of the distant galaxies captured by the Hubble Space Telescope. "In the study of distant galaxies, the Hubble and Keck Telescopes complement each other, like yin and yang," Faber says.

"The Hubble has unparalleled resolution because it orbits above earth's atmosphere, so it gives us beautiful images that show what the galaxies look like—their shape and size," she explains.

But the Hubble is not an especially large telescope, so it does not collect enough light from these distant galaxies for spectroscopic studies. The twin Keck Telescopes, which are the largest optical telescopes in the world, have the light-gathering capacity needed for detailed spectroscopic analysis of light from distant, faint galaxies.

Astronomers determine the distance to a galaxy from its "redshift," a measure of how much the light from a distant object has been shifted to longer ("redder") wavelengths by the expansion of the universe. From the combination of Hubble images and Keck spectra, the researchers can also determine a galaxy's brightness, its radius (how big it is), and its internal velocity or rotation speed.

"Those three parameters are the Holy Grail—they can tell you all you need to know about a galaxy," Faber says.

According to Koo, the ability to derive the masses of distant galaxies from these parameters distinguishes the DEEP project from other galaxy surveys. "The mass measurements provide a very important link to theoretical models of galaxy formation and evolution," he says.

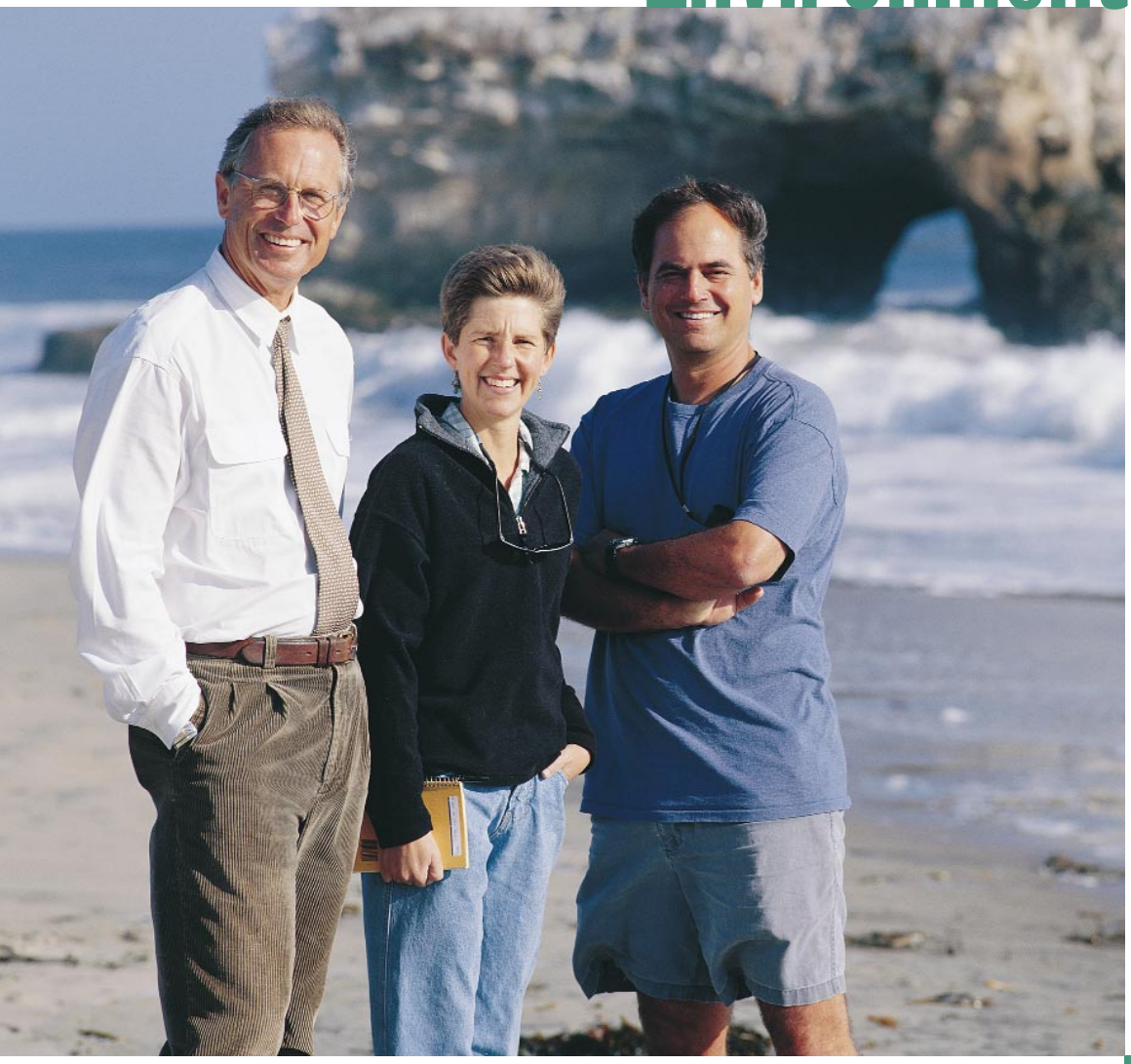
The bulk of the DEEP survey is concerned with a population of galaxies with redshifts around 1, representing the universe when it was about half its current age, or about 6–7 billion years ago. On a smaller scale, Faber and her colleagues have extended their observations even further to include some of the most distant galaxies known, at redshifts of 2.5 and beyond. These galaxies represent the universe more than 10 billion years ago, at about 10 to 15 percent of its current age.

"The morphology of these very distant galaxies is peculiar—they look like blobs, not like the nice spirals and elliptical galaxies we see nearby," Faber says. "At a redshift of 1, however, the galaxies are looking much more normal. So a major question we hope to answer is, how did this transition happen?"

—Tim Stephens

Environment

integrating science and policy



R. R. JONES

IMS director Gary Griggs, fisheries sociologist Carrie Pomeroy, and marine biologist Peter Raimondi

"The goal of our research is to be more inclusive—to understand not only ocean systems but also our role in protecting them."

—Gary Griggs

On the California coast near San Diego, large intake pipes suck vast amounts of seawater into the San Onofre nuclear power plant each day. The water provides vital cooling for the plant, but huge numbers of larval fish are sacrificed in the process.

Enter UC Santa Cruz biologist Peter Raimondi. A member of the scientific advisory panel of the California Coastal Commission, Raimondi helped evaluate environmental damage caused by the plant. Thanks in part to his work, a wetland will be restored and the largest artificial kelp reef ever built for biological restoration is being constructed about 15 miles north of San Onofre. These sites will provide life-sustaining habitat for fish, eggs, and larvae to help replace those that are being lost.

"It won't restore the fish in the immediate vicinity of the plant," says Raimondi, an associate professor of biology. "But it will help make up for some of the loss."

Problem solving. It is becoming an ever larger portion of the work being done by UCSC's marine scientists. Many, including Raimondi, feel compelled to "give back" to society by sharing their expertise with government agencies, policy-making boards, environmental organizations, and nonprofit groups.

This applied work is in keeping with the vision of Gary Griggs, director of UCSC's Institute of Marine Sciences (IMS).

"The goal of our research is to be more inclusive—to understand not only ocean systems but also our role in protecting them," says Griggs.

Indeed, Griggs's leadership reflects the growing integration of scientific research and policy making that is taking place as both sides attempt to span a gap that has at times had devastating environmental consequences.

A generation ago, for example, abalone were plentiful in California, but insufficient oversight allowed unregulated harvests of the seafood delicacy, and the abalone population crashed. By the time limits were put in place, regulators had no choice but to ban all commercial harvesting.

Such mistakes are clearly avoidable, and Griggs has spent years shoring up relationships to facilitate better communication. During his tenure, he has established partnerships with numerous state and federal agencies, including the National Marine Fisheries Service, the U.S. Geological Survey, and the California Department of Fish and Game. Those collaborations offer researchers the benefits of working across institutional boundaries, and they give UCSC scientists a direct link to the people who make the policies they hope to influence.

Marc Mangel, a professor of environmental studies who specializes in population biology, has witnessed a shift over the years in the way that fishery regulations are interpreted. Until recently, Congress pushed for the "maximum yield," encouraging the fishing industry to harvest the highest yields possible. Recently, however, the focus has shifted toward sustainability, a trickier concept that seeks to balance human demands with harvests that will preserve fish populations and maintain biological diversity.

It's a change Mangel attributes to greater environmental awareness generally and also to increased interaction between scientists and policy makers. Mangel sums up the belief of many when he says, "Scientists shouldn't make policy, but they should frame the context in which policy discussions take place."

For Carrie Pomeroy, that has meant broadening the horizons of marine science research. A fisheries sociologist, she stresses the need to understand more than just biology when drafting marine resource regulations.

"Policy makers are responsible for protecting ocean resources, but to be able to make effective policy, we need to understand the way people affect—and are affected by—those resources and their management," says Pomeroy, an IMS assistant research scientist.

Pomeroy works hard to maintain the trust of the fishing industry as she explores questions like whether fishermen congregate on the edges of marine reserves, where logic suggests fish populations might be higher. "While perfectly legal, and actually pretty smart, that activity could have unintended consequences, which is why it's so critical to study how people interact with the marine environment," says Pomeroy. "There's a growing recognition that the people element is relevant to resource management."

By training the next generation of marine biologists, IMS scientists like Pomeroy are making a lasting contribution to the union of science and policy. Through their work, IMS researchers are serving as role models for students, many of whom have a growing interest in work that has applied significance.

"I feel that I have a social responsibility to do this kind of work," says assistant professor of biology Mark Carr, who serves on a panel that is helping design a marine reserve in the Channel Islands off the coast of southern California. "It's really pretty simple: Are we going to start making decisions based on scientific knowledge, or not? In the end, politics may override science. But I have to try."

—Jennifer McNulty

K–12 Education

R. R. JONES

At Starlight Elementary School: (front row, l–r) students James Manville, Darlene Mijarez, and Kimber Lee Manville; (back row, l–r) Lucia Villarreal, Alexander Marshall, Noni Reis, and Joyce Justus

"As a teacher, I feel like I'm an intellectual, a literacy strategist, a social worker, a counselor, a secretary, a big brother, and a psychologist. It's the most challenging, stimulating job I could ever see myself doing."

—Alexander Marshall

Second-grade teacher Alexander Marshall never went to med school. But his colleagues at Starlight Elementary School have taken a cue from doctors and created an environment that's as close to a medical residency as a new teacher will get. Fresh out of UCSC's graduate education program, Marshall is part of a revolutionary approach to K–12 education that provides unusually high levels of professional support to teachers throughout their careers.

To that end, Starlight became a "professional development school" five years ago in partnership with UCSC. In this unique school, located in Watsonville in southern Santa Cruz County, teachers at every stage of their careers are encouraged to participate in weekly enrichment activities, to collaborate with one another, to utilize cutting-edge educational research, and, simply, to excel.

Unlike at many schools, where professional development occurs sporadically, career growth is an integral part of being on the Starlight faculty. Marshall began tapping the school's unique resources when he was a student teacher there last year.

"I had no idea how difficult this job is," says Marshall, who is now teaching second grade. "I was very naive. As a teacher, I feel like I'm an intellectual, a literacy strategist, a social worker, a counselor, a secretary, a big brother, and a psychologist. It's the most challenging, stimulating job I could ever see myself doing."

UCSC's Education Department shares resources with K–12 schools throughout the region to help give teachers consistent access to the tools and inspiration they need to perform at their highest levels. At Starlight, that effort goes even further: Every teacher gets one afternoon every three weeks to work outside the classroom with peers at his or her grade level. In these meetings, teachers assess how students are progressing, share effective teaching practices, and develop curriculum. Teachers also have many optional opportunities for professional growth, including peer coaching, observation, and study groups. Finally, the entire staff attends three focused daylong enrichment programs together.

"Traditionally, teachers are proprietary about materials they've developed, but not here," says Lucia Villarreal, the first-grade teacher who supervised Marshall last year. "We're all learners, and we're all teachers."

Like a lot of students in schools in California, Starlight's students have special needs. Most of them are native Spanish speakers, and 80 percent of them come from families living below the poverty line. Teachers and administrators teamed up with UCSC to help accomplish their goal of providing equitable schooling for Starlight's students.

"My mission is to ensure that all students have well-qualified, competent teachers leading rigorous academic programs," says principal Noni Mendoza Reis.

The "professional development school" (PDS) collaboration creates an environment that encourages excellence. For new teachers, the challenges are numerous: lesson planning, classroom management, working with parents, motivating children, and developing the skills and confidence to lead the class effectively. For experienced teachers, PDS gives them the opportunity to share their expertise and to continue learning about teaching—powerful experiences that help them avoid the common pitfalls of burnout, boredom, and isolation.

The program builds a sorely needed bridge between novice and experienced teachers, and it facilitates communication between school personnel and UCSC faculty, graduate students, and researchers. The university is among the many beneficiaries: About 80 UCSC students, including many in the teacher-credentialing program, gain valuable classroom experience at Starlight each year.

"The professional development model gives us a direct link to schools," says Joyce Justus, chair of the UCSC Education Department. "We need immediate feedback on what we are doing right in our teacher education program, what needs improvement, and what new needs are emerging in the schools that we should be preparing for. It is that continuing interaction that makes the difference."

Villarreal, who has taught for more than 20 years, was named Distinguished Teacher of the Year by the California Association for Bilingual Education last year. She has nothing but praise for the opportunities she has had through the PDS program.

"I have a lot to share, but I'm also learning from others," explains Villarreal. For example, with Marshall's input, she retooled her end-of-the-year unit on play and recreation, taking an approach that was designed to stimulate "enduring understandings."

She talked with her students about how people and animals play; how play helps us rest, learn, and work; and how play can be challenging, too. They read about how baseball helped sustain Japanese Americans who were imprisoned during World War II, and they explored the ways in which play can be free or expensive. "The unit gave students a real depth of understanding," she recalls.

Villarreal, like Marshall, has found that brainstorming with her peers in a supportive setting gets the creative juices flowing.

"Half the ideas I have I've borrowed, and the other half I've stolen," Villarreal says with a smile. "People don't see this because each teacher modifies material her own way. As educators, we need to learn from other professions. Doctors aren't starting from scratch. Attorneys don't invent the law. But there's this idea that teachers are supposed to invent everything by themselves. That's crazy."

—Jennifer McNulty

engineering a better Internet

Communications

PHOTO BY R. R. JONES; INTERNET GRAPHIC COURTESY OF STEPHEN G. EICK, VISUAL INSIGHTS

"We will migrate from the workstations of today to a smart card that we will put in a variety of devices, and the user environment will come to us, wherever we happen to be."

—J. J. García-Luna

Computer engineers J. J. García-Luna and Anujan Varma

Slow connections, interrupted service, and assorted computer glitches are all too familiar to anyone who surfs the Internet from home. Yet technological progress has been so rapid in the past decade that the idea of depending on the Internet for telephone service, television broadcasts, and a multitude of other services does not seem so far-fetched.

According to Anujan Varma, a professor of computer engineering in UCSC's Jack Baskin School of Engineering, the technology already exists for the Internet to support a wide range of communications services at high levels of performance and reliability. The infrastructure needed to bring that performance and reliability into people's homes hasn't been built yet, but it's coming, Varma says.

Telecommunications and networking companies are investing billions of dollars to improve their networks, replacing old copper wires with high-speed fiber-optic cables and upgrading other key components. Eventually, Varma predicts, telephone networks and the Internet will merge into one entity.

"Sooner or later, we will be using the same network for both voice and data communication," he says.

Most people who use the Internet remain blissfully ignorant of the complex physical infrastructure that brings Web pages and e-mail to their computer screens. The Internet is basically a diverse family of interconnected computer networks. Varma, who teaches an introductory course on the engineering behind the Internet, describes it in terms of two simple processes: Transmission, mostly over optical fiber, moves information from one place to another; and routing or switching gets things to the right place.

Varma's specialty is high-speed switching—how to move packets of data rapidly from one transmission line to another.

"It's a question of how to engineer the switches to support higher speeds," Varma says. "We don't need fundamentally new technology, just a lot of engineering work to make things faster and cheaper."

Although private industry is the driving force behind most of the changes in communications, researchers like Varma and his colleagues in the School of Engineering are important players in this ongoing high-tech revolution, as consultants to and collaborators with industry and also as the educators of the high-tech workforce.

Professor of computer engineering J. J. García-Luna, for example, is involved in a variety of projects designed to address the challenges raised by the explosive growth of the Internet. His Computer Communications Research Group is developing new ways to create wireless networks and to support videoconferencing and multimedia collaborations over the Internet.

García-Luna envisions a future in which the Internet will essentially replace the personal computer. All of the computing power, data-storage capacity, and communications links one might want will be available over the Internet, and people will be able to access these resources from any number of devices, most of them wireless. Instead of a personal computer, says García-Luna, people will have an assortment of handy devices that connect to the Internet—at their desks, on the walls of classrooms and conference rooms, in their cars, and throughout their houses.

"We will migrate from the workstations of today to a smart card that we will put in a variety of devices, and the user environment will come to us, wherever we happen to be," García-Luna says.

Already, companies offer "smart" cell phones that can receive e-mail and provide limited access to the World Wide Web. García-Luna expects to see a proliferation of such "Internet-to-go" devices tailored to serve a variety of specialized purposes. Maybe we'll have little portable screens on our kitchen counters for displaying recipes and cooking videos culled from an Internet database. And that futuristic fantasy of the fifties, the videophone, may finally become as pervasive as the telephone through real-time transmission of audio and video over the Internet.

Making all this possible will be a massive technological infrastructure operating behind the scenes. The Internet backbone will provide transmission services, while data processing and storage will be provided by "server farms," buildings full of supercomputers connected to the Internet.

"The issues we face today are how to manage this new world," García-Luna says.

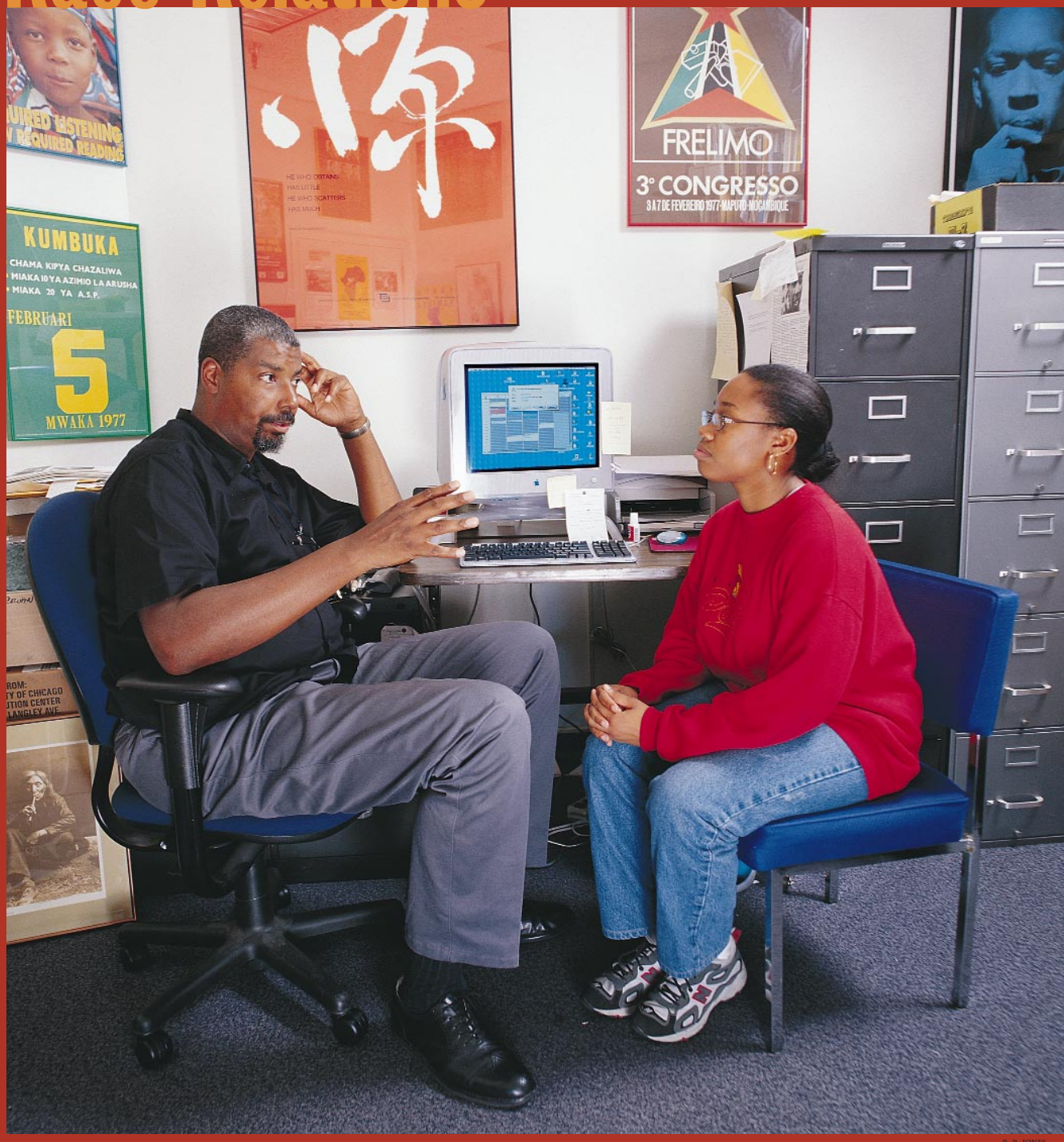
One of the biggest concerns is security for computer networks and wireless communications, says García-Luna, who is developing secure protocols for wireless devices in a project sponsored by the Defense Advanced Research Projects Agency.

Another major challenge is how to handle multimedia—combinations of data, graphics, audio, video, and so forth. Real-time transmission of multimedia over the Internet will require not only high-speed connections but also new transmission protocols and standards. Varma, García-Luna, and other UCSC researchers are involved in several projects relating to multimedia communications.

"We already have a lot of the pieces we need to make these things happen," Varma says. "For the past 20 years, the work has been on developing the underlying technologies, but the challenge for the next 20 years is to make the best use of that technology."

—Tim Stephens

Race Relations



R. R. JONES

Oakes College provost David Anthony counsels student Arinn Filer

In the last part of the 20th century the world has witnessed extraordinary advances in such areas as medicine, science, and communication. Unfortunately, those advances have not benefited all members of society equally.

Poverty levels for minority children in the U.S. have risen over the last several decades; incarceration rates continue to be disproportionately high for some minority groups as well; hate crimes occur in the U.S. and abroad with alarming regularity; and debt to former colonial powers is causing devastating poverty in many Third World countries.

"Most people have no idea of the forces arrayed against whole sectors of society," says David Anthony, an associate professor of history. "The race you are born into clearly affects the trajectory of your life."

A specialist in African and African American history, Anthony has spent a lifetime teaching, researching, writing about, and living with racism. He can easily explain the parallels between the post–Civil War Reconstruction Era and the 1960s Civil Rights Movement. He can describe the link between cutbacks in social services and the rise in crime in communities from Compton to Somalia. And he can illustrate the connection between the end of the Cold War in 1989 and the current economic and social upheaval in Africa.

But, despite his expertise, there is one question on racism that perpetually stumps Anthony: "How do I explain it to my kids?"

"Here we are at the dawn of the next millennium and still—with all the history we have to learn from, with all the struggles we've been through—people get pulled over, beaten, and even starve to death, just because of the color of their skin."

There is, of course, no satisfying answer to his question. That is why, as both an educator and civil rights activist, Anthony is interested not only in understanding the forces of racism, but in addressing them. His conviction led him to a career in teaching, and it was also behind his decision, in 1995, to accept the position of provost of UCSC's Oakes College.

"I went into this business to open doors. Whether it's teaching a roomful of students or speaking with a troubled individual in my office or finding the funds for diversity programming, education is a powerful way to address social ills, to create social justice," he says.

Anthony had mixed feelings about taking on the administrative post at Oakes. It meant cutting back on his teaching and his research project—a biography on African American Max Yergan, a Christian missionary and leader in communist and African American movements who later became an archconservative activist.

But becoming provost also meant Anthony could help students in new ways: as an adviser, as someone who can fund a project, or as a guide through the sometimes complex landscape of academia. "There's a saying: If you don't know where you're going, any road will take you," he says. "As teachers and administrators, we always hope that we're helping students find direction."

They don't give Oscars for powerful teaching, or shares of stock for graduating one's students. For Anthony, the rewards of the job come from engaging in his dual passions of teaching and working for social justice. "It's encouraging to see, especially at Oakes, how many students who 'make it' after graduation are involved in the process of effecting social change," he says.

As a historian, with the perspective of centuries in mind, Anthony knows that creating a more egalitarian world can't be accomplished in a single lifetime. But it hasn't stopped him from trying.

—Barbara McKenna

"Here we are at the dawn of the next millennium and still—with all the history we have to learn from, with all the struggles we've been through—people get pulled over, beaten, and even starve to death, just because of the color of their skin."

—David Anthony

understanding the foundations of life

Biotechnology

R. R. JONES

Molecular biologists Andrew Chisholm and Yishi Jin

"We know from comparing the gene sequences of organisms ranging from yeast to humans that genes with fundamental roles have stayed much the same throughout evolution."

—Manuel Ares

Soon, perhaps as early as spring 2000, the gene-mappers heading up the nationwide Human Genome Project expect to have a rough draft of the entire human genetic code. Over the next few years, they will fill in the remaining gaps to obtain the complete DNA code containing all of the estimated 80,000 to 100,000 genes of *Homo sapiens*.

Having the complete code for the human genome will make it much easier for medical researchers to identify genes that cause or contribute to diseases. But having a gene's DNA code and understanding how it works are two entirely different matters.

Surprisingly, one of the most productive approaches to understanding human genes involves fundamental research on simpler organisms such as baker's yeast, fruit flies, a tiny roundworm, and mice. At UCSC, molecular biologists studying these organisms are helping lay the groundwork for the medical advances promised by the Human Genome Project.

"We know from comparing the gene sequences of organisms ranging from yeast to humans that genes with fundamental roles have stayed much the same throughout evolution," says professor of biology Manuel Ares. "As a result, what we learn about gene functions from studying model systems is likely to be relevant to humans."

One popular model system is the roundworm *Caenorhabditis elegans*. An almost-microscopic, soil-dwelling nematode worm, *C. elegans* feeds on bacteria and lives in most temperate regions of the world. Molecular biologists tend to call it simply "the worm."

As a system for studying the genetics of animal development, the worm offers many superlative features. It is the first multicellular animal for which the complete genome has been sequenced. The developmental steps leading from a single embryonic worm cell to the 959 cells that make up an adult worm have been traced and described cell by cell. And biotechnology enables researchers to manipulate the worm's genes in ways that shed light on the functions of specific genes.

Assistant professor of biology Andrew Chisholm uses the worm to study the molecular signals that pass between cells in a developing animal. These signals orchestrate an orderly pattern of development. Chisholm's colleague, assistant professor of biology Yishi Jin, focuses on the development of the worm's nervous system, which consists of about 300 interconnected nerve cells. The human brain, in contrast, contains at least one trillion nerve cells.

"We know a lot from studying the human brain directly, but we don't know how its structure develops and how all the neural connections are made," Jin says.

Jin has been identifying genes involved in creating the worm's relatively simple neural circuitry, and so far all of the genes she has found in the worm have turned out to have matching genes in humans, as well as in other organisms such as mice and the fruit fly *Drosophila*.

"The real power of the worm is that you can do a genetic analysis—for example, you can knock out a gene to find out what its biological function is—and then you can take that knowledge back into human systems where you wouldn't be able to do that kind of experiment," Chisholm says.

UCSC biologists are also studying the genes that regulate development in *Drosophila* and mice. Assistant professor of biology Lindsay Hinck, for example, is studying the molecular signals that guide the growth of neurons and the formation of neural connections in the mouse brain.

As for how all this fundamental genetic research will ultimately be applied in medicine, Chisholm noted that it is already having a major impact in the area of drug development.

"Pharmaceutical companies are hiring researchers to study gene function in model organisms, because it allows them to identify a potential drug target in a simple system before they decide to spend millions of dollars developing a drug for humans," Chisholm says.

According to Ares, another likely application of biotechnology in medicine is pharmacogenomics: using genetics to assess how a patient will respond to potential drug treatments. Although more than 99 percent of human DNA sequences are the same throughout the population, there are significant differences between individuals. Some of those differences affect how people metabolize drugs.

"People vary in how they respond to a particular drug and whether they experience side effects," Ares says. "Using genetic profiling, doctors will be able to prescribe individually tailored drug treatments."

But researchers must synthesize the information obtained from research on different organisms to make these applications a reality.

"It will be eons before we have for humans the kind of detailed knowledge we have of the worm, but we should be able to take what we learn from the worm and apply it to humans," Ares says.

—Tim Stephens

is the mouse mightier than the pen?

Artistic Expression

Artist Anna Sprent with her installation, *Test*

R. R. JONES

During her junior year, art student Anna Sprent created a piece called *Test.* Covering a large section of a studio wall, the work portrayed a futuristic landscape of computer parts and scrap metal on one side that merged into an encroaching mound of nature—dirt, plants, and straw formed into female forms—on the other.

Sprent, a member of UCSC's class of 2000, has grown up in a world where chess programs outwit chess champions, lovers meet inside electronic chat rooms, and geneticists decipher DNA to clone living creatures.

As computers have become more powerful and applications more sophisticated, their very existence is challenging humanity's fundamental understanding of itself in a way that hasn't happened since Darwin drew a new family tree for the human species.

In the art world, the new technology has sparked passionate debate over the dilemma that Sprent and other artists must confront on a regular basis these days: What is the role of the computer in artistic expression? The most frequently voiced concern is that computers are elbowing in on the actual act of creation.

That charge is often directed at composer and UCSC music professor David Cope, the inventor of Experiments in Musical Intelligence ("Emmy"), a computer program that creates original music in the style of other composers. Emmy's compositions have been released on three CDs (on the Centaur label) and performed around the world.

Cope says that the myriad objections he hears from critics of programs such as Emmy and Aaron (a robot that paints original art) boil down to one word: intent. "No matter what critics tell me, the subtext is the same. Emmy can create beautiful things, but it doesn't intend for them to be beautiful. Therefore, many feel that they're not to be taken as seriously as human creations, which have intent.

"We've always regarded art as this incredibly deep and profound expression of humanity," he says. "The fact that computer-generated art can be so moving disturbs a lot of people. It challenges our fundamental belief of art as a sacrosanct human activity. It challenges our definition of what it means to be human."

Even as debate rages about the role computers should play in the process of creation, new and extraordinary examples of computer-assisted art continue to surface—in arenas ranging from home studios to metropolitan museums and community stages to the big screen.

At UCSC, high-end computer labs and technology turn the phenomenal into the achievable: A film and digital media professor produces a clip of himself in a snowstorm—one that he shot in the heat of the summer. A theater arts staff technician uses digital-mixing software and hardware to create the screech and clang of a car crash, an effect that is so realistic it makes audiences jump in momentary panic. Art students mount a gallery show in which motion sensors activate various film clips; the images change in response to the movements of the viewer, creating a kind of interactive dance.

As these kinds of computer-assisted creations proliferate, the sometimes rocky marriage of art and technology will only demand greater scrutiny, especially by the newest generation of artists—among them Anna Sprent.

Although she rarely pushes the "on" key to a computer herself, Sprent isn't bothered by artists who do. "There's nothing wrong with bringing computers into the creative process," she says. "I've seen fantastic high-tech pieces, and I've seen ineffective ones. Ultimately, what matters is that the artist is passionate about what he or she is doing."

—Barbara McKenna

"We've always regarded art as this incredibly deep and profound expression of humanity. The fact that computer-generated art can be so moving disturbs a lot of people. It challenges our fundamental belief of art as a sacrosanct human activity."

—David Cope

Global Economics

R. R. JONES

"Countries that previously had no access to international financial markets now have access to capital they've never had, and they also have access to trouble they've never had."

—Michael

Economist

Michael Dooley

balancing opportunity and accountability

For most people, the global economy is a blur. Front-page headlines may herald the most dramatic moments, but these snapshots do little to fill in the big picture for the nonexperts among us.

For UCSC economics professor Michael Dooley, however, the picture is in sharp focus. Before coming to UCSC in 1992, Dooley spent more than 20 years studying and dealing with financial crises, first at the Federal Reserve in Washington, D.C., and then as an assistant director of the research department of the International Monetary Fund (IMF), where he remains a consultant. Since then, he has advised the governments of numerous developing countries as they strive to become the world's newest economic players.

Reflecting on the past decade, Dooley observes that economic globalization has ushered in an era of unparalleled opportunity—and uncertainty. Since the collapse of the Soviet Union, developing countries in Latin America, Asia, Eastern Europe, and the former Soviet Union are relying on newly emergent market-oriented economies, rather than the government, to distribute goods, services, and credit. Governments are selling off some industries, privatizing others, and deregulating fields like finance, telecommunications, and mining.

Like dropping a large boulder into a small pond, this change has generated tsunami-sized effects that have washed over the world's financial markets, says Dooley.

"Countries that previously had no access to international financial markets now have access to capital they've never had," he says, "and they also have access to trouble they've never had."

The recent Asian economic crisis, and the Mexican economic crisis of 1994, can be traced quite directly to this liberalization of capital markets. The current challenge, according to Dooley, is figuring out how to preserve new markets while avoiding the destabilizing financial crises that have occurred with increasing frequency and magnitude. "That's a very big question," says Dooley, acknowledging that there are no ready answers.

One major problem is that developing countries lack the regulatory structures and the expertise within their domestic banks to operate in an open economic system. By contrast, industrialized countries have a lot more experience, and they regulate their financial markets pretty heavily.

There's a simple and compelling reason for the high level of oversight: Governments want to do everything they can to avoid having to rescue banks. "All governments are implicitly liable for their banking systems," says Dooley. "You just don't let your banks go, because if you do, all hell breaks loose."

In the U.S., the Federal Reserve System and the Federal Deposit Insurance Corporation regulate the activities of the nation's banks. In developing countries, the absence of such a system, coupled with corruption and high levels of risktaking, has left many governments unable to cope with the consequences, as recent history has shown.

Unlike the "old days," when government overspending was the culprit, countries today are getting into trouble when their banks make bad loans. Forced to take over massive debts, governments have no alternative but to turn to the IMF for help.

The IMF operates like a financial safety net. An international membership organization made up of 182 countries, the IMF lends money to members that are in financial trouble on the condition that they undertake specific economic reforms stipulated by member governments.

"Countries turn to the IMF when they can't borrow from anybody else," says Dooley. "They're already on life support. The patient is in critical condition."

The IMF has, however, pulled the plug on Russia, where millions of aid dollars have vanished into the pockets of corrupt officials. Until Russia restructures its financial system, it will get no more assistance, says Dooley.

What remains to be seen, however, is whether the recent series of high-profile "bailouts" that began with Mexico in 1994 has sent an irreversible signal to developing nations that it's okay to take excessive risks because the international community will always be there to patch things up.

"There's no question that the market's perception of risk after Mexico changed dramatically," says Dooley. "But there's also a growing recognition that governments have to monitor and somehow enforce limits on what people are doing with their money. If you're a government, you've got to get a hold on that. You've got to protect yourself."

Creating incentives for governments to exert some control is clearly the next step, says Dooley. The IMF, along with the World Bank and the regional development banks, is making a big push to help developing countries restructure their banking systems.

They need look no further than the U.S. for a good model, says Dooley. "You need the rule of law for open financial markets to work," he says with finality.

But then, with a wry smile, he hastens to add: "Of course, our system didn't evolve overnight. We had our share of robber barons, too. We had a pretty rapacious system for a very long time."

—Jennifer McNulty

Alumni News

Alumni Association Councilors, 1999–2000

Cowell
Adilah Barnes
Michael Twombly

Stevenson
Diana Reece, *Vice President for Programs*
Heather Urquhart, *Vice President for Administration*

Crown
Michael Brown
Linda Wilshusen, *President-Elect*

Merrill
Ken Doctor
Dominador Siababa

Porter
Daren Lewis
Linda Ziskin

Kresge
Douglas Foster
Richard C. Hall

Oakes
Renée Martínez
Eric D. Thomas

College Eight
Joanne Foxxe
Robert Weiner, *President*

At Large
Mark Adams
Dorothy Gustafson
John Laird, *Vice President for Finance*
Sandor Nagyszalanczy
Kathryn Tobisch, *Vice President for Membership*
Pat Walker

Ex Officio
Roger Anderson, *Chair, Academic Senate*
Kami Chisholm, *President, Graduate Student Association*
Carolyn Christopherson, *Executive Director*
M.R.C. Greenwood, *Chancellor*
Stephen Klein, *Past-President*
Kirti Srivastava, *Chair, Student Union Assembly*

Banana Slug Spring Fair 2000 on April 15

PHOTOS: SHMUEL THALER

At Banana Slug Spring Fair 1999 (CLOCKWISE FROM LEFT): *Visitors talk with campus representatives at the student life fair at the Music Center plaza; visitors peruse the schedule for the day as they wait for a bus; Meg Zweiback ('69) and Tom Weiner ('70) greet each other during the 30-year reunion of the pioneer class; fair attendees relax in the sun during a performance of* Two Gentlemen of Verona *by UCSC's student touring troupe, Shakespeare To Go.*

UCSC rolls out the red carpet for alumni, current and prospective students, their families, and friends at Banana Slug Spring Fair campus open house on Saturday, April 15. This annual event showcases UCSC's academic programs and offers reunions, tours, lectures, and receptions. Alumni highlights are listed below. For more information, contact University Relations at (800) 933-SLUG or locally at (831) 459-2501. Web site for the event: **admissions.ucsc.edu/bssf**

Events to welcome alumni:

► The all-alumni reunion luncheon is the keystone event for all alumni. Graduates from the classes of '70, '75, '80, '85, '90, and '95 will get special recognition as they celebrate five- through 30-year reunions. Guests will be seated together by class year.

►The first campuswide reunion specifically for African American alumni and friends will offer a weekend of events including a family reception, mentor's circle, and Saturday night dinner and dance. J. Herman Blake, the founding provost of Oakes College, Paula Powell, director of the UCSC African-American Student Life Resource and Cultural Center, and other key visionaries past and present will participate. Contact organizer Adilah Barnes via e-mail at *ABPro1@aol.com* or the Alumni Association at (800) 933-SLUG.

► Encuentro 2000 will be the first campuswide reunion of UCSC Chicano and Latino alumni and classmates from1965 through the present. Three days of activities will include a faculty reception, Saturday night dinner and dance, and traditional post-party menudo brunch on Sunday. Events will focus on ways alumni can contribute to enhanced educational opportunities for California's Latino students. Contact organizer Olga Nájera-Ramírez via e-mail, *olga@cats.ucsc.edu,* or the Alumni Association.

► A founder's luncheon honoring women's studies founding faculty and students will be held on Sunday, April 16. All women's studies alumni and friends are invited, including all graduates of *Introduction to Women's Studies* and other classes offered by the department. Professor Bettina Aptheker and Chancellor M.R.C. Greenwood will participate. Contact the Women's Studies Department at *wst@cats.ucsc.edu* or (831) 459-4324.

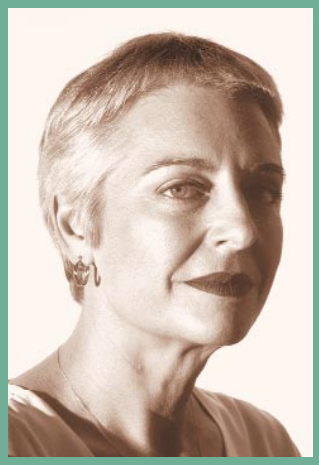
► Every college will hold a reception late Saturday afternoon. In addition, Oakes will hold a 25th anniversary celebration featuring founding provost J. Herman Blake and current provost David Anthony III on Saturday afternoon. At Merrill, Los Mejícas dance troupe will perform and students will paint the moat. Porter will feature a performance by the Marimba band Kuzanga. For more information, call the programs coordinator at your college.

Alumni Association welcomes 10,000th member

The UC Santa Cruz Alumni Association welcomed its 10,000th member this past fall. The 10,000th member is Melyssa Jo Kelly, a re-entry student who graduated from UCSC with a degree in women's studies in 1996. "I joined so I could stay in touch and make it easy for faculty and my classmates to get in touch with me," said Kelly, an administrator of the violence against women programs for the San Francisco Commission on the Status of Women.

Popular benefits of membership are the free library borrowing privileges at all UC campuses, the alumni locator service that helps graduates find their old friends, and discounts at campus recreation facilities, according to Rob Barandas (Crown '91), membership and marketing director for the association. "But the main reason people join is to show support for the campus," said Barandas. "It's nice to get the benefits, but they want to maintain their connections to the campus."

By enrolling 25 percent of the 40,000 graduates for whom it has addresses, the Alumni Association is doing very well for a campus of its size and age, said Barandas. About 49,000 students have graduated from UCSC. Among UC alumni associations, the UCSC organization trails only UCLA and UCSF (which offers only graduate degrees) in the ratio of graduates to members, he noted.



COURTESY MELYSSA JO KELLY

Melyssa Jo Kelly (Kresge '96) was the 10,000th member of the UCSC Alumni Association.

The association was established in 1968 to promote, influence, and support the educational, cultural, and social life of UCSC. Its members serve the university, its colleges, and students, and members help guide the university in the future. A 24-member alumni council is the governing body of the association. Membership fees help support campus programs, including undergraduate scholarships.

Annual membership dues are $35; lifetime membership is available for a one-time payment of $450, or five payments of $100/year. All graduates are offered a free one-year membership to introduce them to the association.

This year, the association will publish a comprehensive *Year 2000 Alumni Directory* that will be available for members to purchase.

To join the Alumni Association, call (800) 933-SLUG toll-free or locally, (831) 459-2530

Didn't your mom teach you to say thank you?

Thank an outstanding UCSC faculty or staff member.
Celebrate a remarkable UCSC graduate.
Nominations are now open for the 2000–01 Alumni Association Awards for faculty, staff, and alumna/us of the year.
Deadline: Friday, June 2

Information and nomination forms available on the Web at *alumni.ucsc.edu/programs/index.html* or upon request
Contact the Alumni Association
(800) 933-SLUG or via e-mail, *alumni@cats.ucsc.edu*

Alumni giving reaches record high

Alumni donations to UC Santa Cruz broke all previous records last year. Alumni gave almost $1 million to the campus in 1998–99 ($931,739), a 22 percent increase over 1997–98. Of the 1998–99 total, alumni gave $223,896 in gifts and pledges to the Alumni Association Scholarship Fund (AASF), bringing the endowment to over $800,000.

This year, the Alumni Association's goal is to bring the fund's value to $1 million or more. Since the AASF was founded in 1991, the association has given scholarships based on need to 68 undergradutes. One such recipient is Jenny Aguas, a junior Latin American/Latino studies major at Stevenson. "Many barriers are broken thanks to the help we receive from those who have already walked through similar paths as ours," she wrote. "I realized that obtaining a college education is not as frightening as it seemed; on the contrary, it is a power that no one can take away from me."

This year, the association was able to make $2,500 awards to 11 students, including Aguas (see photo, below).

The classes of '70, '75, '80, and '95 may take a lead role in helping the Alumni Association reach or exceed its $1 million goal for the Alumni Association Scholarship Fund. Graduates from these years have been invited to make "class gifts" to the campus; their donations (up to $50,000) will be matched by a "challenge grant" from the Alumni Association.

Last year, the classes of '69, '74, '79, and '94 responded to a similar invitation, giving $202,768 to the campus for a variety of uses.

Interested alumni and friends can support the campus and help the Alumni Association meet its $1 million scholarship fund endowment goal by making a donation this year. For more information, contact the Annual Fund at University Relations at (800) 933-SLUG.

UCSC PHOTO SERVICES

Eleven undergraduates received $2,500 Alumni Association scholarships this year based on financial need and demonstrated commitment to obtaining higher education. The recipients are (front row, l–r): Jeff Francis (College Eight, environmental studies), Yvonne Rodriguez (College Eight, physics), Tatonia Taylor (Oakes, sociology), Marisol Tavera (College Eight, biology), Sonia Verduzco (Kresge, Latin American/Latino studies); (second row, l–r): Gilbert Velasquez (Kresge, Latin American/Latino studies), Vince Hernandez (Merrill, environmental studies), Cesar Becerra (Crown, psychology), Jenny Aguas (Stevenson, Latin American/Latino studies), Rhiana Gonzalez (Crown, biology). Not shown: Nghi Tran (Crown, undeclared).

Alumni Notes

Cowell College

'69 Margaret WADE Krausse is teaching at Linfield College in Oregon; she married Jeff Krausse in Portland in 1995.

'70 Ann COURTRIGHT obtained an M.S. in human resources management and is currently the personnel officer for the City and County of San Francisco Department of Human Services; she still enjoys oratorio and liturgical singing and is happily partnered.

'71 Jessica GRESSETT Morton, who has been a teacher in Mendocino, Calif., for 26 years, is enjoying a recent move up to the fourth grade; her book, *Kids on the 'Net: Conducting Internet Research in K–5 Classrooms,* was published by Heinemann in 1998. **Rebecca LARUE Terry** is a school psychologist with the Pasco School District in Washington; she is married to Mike Terry, a nuclear safety engineer with Los Alamos National Lab.

'72 Miguel TEJADA-FLORES recently finished an extended stint as a staff writer for *Welcome to Paradox* on the Sci-Fi Channel.

'76 Steve LIPKE is an artist and part-time instructor at Mendocino-Lake Community College; he lives in Santa Rosa. **Virginia BURTON Whitehead** is a high school teacher and has two children.

'77 Michele GERARD has a private practice in neuropsychology in Boulder, Colo.; she is "cultivating her gardening addiction with a cutting garden of 100 rose bushes." **Doris MICHAELS**, who started the New York City–based Doris S. Michaels Literary Agency in 1994, was speaker at the seventh annual Columbus Writers' Conference in September 1999.

'78 Michael YINGER is working on Internet projects with Cambridge Management Consultants and living in New Jersey, reluctantly.

'80 Mark PADILLA was promoted to professor of classics at Bucknell University; he can be contacted at *mpadilla@bucknell.edu.*

'81 Sherril BABCOCK is currently representing AIDS Project Los Angeles before the California Supreme Court; she's gardening, cycling, going to Dodgers games, living with seven cats and a bunny, and is 11 years sober; "life is good," she writes. **Lauren JONES** is pursuing an M.A. in counseling psychology and began an internship at Youth Services in Santa Cruz in September 1999; she can be reached at *laurenj@got.net.* **George (Bob) PERKOVICH** is deputy director for programs and director of the Secure World Programs for the W. Alton Jones Foundation; his book, *India's Nuclear Bomb* (UC Press, 1999) describes India's long and complicated nuclear history.

'84 After completing yet another graduate degree—most recently in physical therapy at Duke University, **Chris LINSON** is living in the San Francisco Bay Area, looking for gainful employment, running, rock climbing, and playing guitar; he can be reached at *chris_linson@yahoo.com.* **Kevin MICKEY** and his wife, Amy, are trial attorneys in Spokane, Wash.; they are the extremely proud parents of a one-year-old son, Matt.

'86 Annette EMERY is working at Caltrans on welfare-to-work transportation issues and was recently elected to the Grant Joint Union High School Board of Trustees. After completing her M.S. in accountancy at San Jose State University, **Emilie LIND** is an accountant with Berger/Lewis Accountancy Corporation in San Jose; she lives in Palo Alto with her two cats and her husband, former Cowell College preceptor Andy Hernandez.

'87 James CALLEROS is contract review supervisor for Northwest Administrators, a third-party benefits firm in San Mateo, Calif.; alumni who share his interest in art, dance, and French culture may contact him at *jmc3320@aol.com.*

'88 Bibit HALLIDAY Traut, a Ph.D. candidate in ecology at UC Davis, has been named a Canon National Parks Science Scholar.

'97 Marcus VIGIL's sticker art was included in a show called "Sticker Shock" at the University of Pennsylvania's Institute of Contemporary Art in 1999.

Stevenson College

'72 Bill GOLDEN continues a career in radio broadcasting, currently at a three-station complex in Hickory, N.C., near Charlotte; he is also doing freelance narration and voiceover work for ad agencies and business videos. Friends can contact him at *bill_golden@hotmail.com.*

'73 Wayne GLAUSSER, a professor of English at DePauw University, where he has been teaching since 1980, was awarded that university's prestigious Minar Award for his exceptional record of scholarship; his most recent book is *Locke and Blake: A Conversation across the Eighteenth Century.*

'74 Anne HAFNER is a full professor of education at Cal State Los Angeles, living in Long Beach with her husband, Joe Lowrey; she would like friends to contact her at *annehafner@aol.com.*

'75 Davia NELSON and **Nikki SILVA** (Porter '73), known in the radio world as The Kitchen Sisters, have produced a series for National Public Radio called *Lost and Found Sound,* a collection of stories that chronicle and celebrate the changing century through recorded sound.

'86 Robin ALLEN is working as a deputy district attorney for L.A. County in the Sex Crimes Unit; she lives with her partner in Pasadena, and they have an art studio in their garage.

'87 Steve OLIVER is the author of *Lotus Domino Web Site Development* (1998) and *Domino Web Development and Administration: Accelerated Study Guide* (1999); he is president of Steve Oliver Consulting. **Bernard YAMRON** is manager of market research at Oxford Health Plans; he lives in Connecticut with his wife, Jennifer, and daughter, Kelly.

'90 Stephen KAHN is associate rabbi at San Francisco's Congregation Sherith Israel, where, as a child, he had received confirmation and was president of the youth group. Kahn's first rabbinical job was at Temple Sinai in Denver, where he helped guide the congregation through their grief after the shootings at Columbine High School, which is ten miles from the synagogue. **John VALLIER** is a second-year graduate student in ethnomusicology at UCLA; he and his wife, Cara, reside in Los Angeles with their cat, MeiMei.

'91 Seth BLACHER is working for the Earthquakes, San Jose's major league soccer team, as a ticket sales representative. After earning master's degrees in library science and Latin American studies at UCLA and getting married, **Roberto DELGADILLO** began a Ph.D. program in Latin American history at UCLA in fall 1999. **Jeanne LEONE-Sterwerf** gave birth to a daughter, Arabella, with her husband, Albert Sterwerf, in June 1999.

'92 Marcia WALL is teaching English at the University of New Orleans.

'95 Charles HENLEY is pursuing a master's in public policy at the University of Michigan. **Tlaloc RIVAS** received an M.F.A. in directing from the University of Washington School of Drama in spring 1999 and has been appointed artistic director of the Venture Theatre in Philadelphia.

'97 Jeremy FACTOR received a master's in public health from Rutgers University in 1999 and is now in his first year of dentistry school at UCLA.

'98 Michelle FRANCO is applying her experiences as a leukemia survivor and her sociology degree background to work for Healing Journeys, a local nonprofit that supports cancer patients.

Crown College

'70 Since receiving an M.A. in geography in 1994, **Michael BAUBLITZ** has been traveling across the country and working as a freelance writer, tutor for disabled students at UC Berkeley, high-tech consultant to Silicon Valley, and poet bon vivant.

'71 Reid BECKER owns and runs a medical diagnostic testing business in Coral Springs, Fla.; he has been married 24 years and has two sons, ages 12 and 16.

'72 Terry TERHAAR is getting her doctorate in forestry and environmental studies at Yale University.

'75 Charles CALLEROS, a professor of law at Arizona State University, is a visiting professor of contract law at Santa Clara University for the 1999–2000 academic year.

'76 W. Gale WATKINS is serving as pastor of Westminster Presbyterian Church in Phoenix; he and his wife, Laurie, are parents of Tim (14) and Becky (12).

'78 Nina KOLTNOW is saddened to report the death of her husband, Carl Dolan, on July 25, 1999; he died of heatstroke suffered during a bicycle event on the east shore of Maryland.

'83 Michael GOLDBERG and

continued on page 28

JAMES SORENSEN

Living Life Large

Camryn Manheim (B.A. theater arts, Porter '84) won Emmy and Golden Globe awards for her role as attorney Ellenor Frutt in *The Practice*

Television actress Camryn Manheim surprised even herself at the 1998 Emmy Awards ceremony. She'd planned to give a traditional thank-everyone-you've-ever-met acceptance speech upon being named outstanding supporting actress in a drama series. Instead, she held the Emmy aloft and shouted, "This is for all the fat girls!"

The statement—more than the award itself—triggered a tidal wave of publicity. Its force carried her to nearly every major television talk show and brought her story to the pages of a number of national newspapers and magazines, including *People, Parade,* and even the *New York Times.*

Through it all, she untiringly described how she learned to accept herself and her weight in a thin-obsessed culture. She also detailed her 30-year struggle to build an acting career in spite of hearing at nearly every turn that she wouldn't "make it" as a performer because of the extra pounds.

Manheim, who has received both the Emmy and a Golden Globe award for her role as attorney Ellenor Frutt on ABC's quirky courtroom drama *The Practice,* says she feels like she's won the lottery—only better.

"It's a miracle that (A) you get a show, (B) the pilot gets picked up, (C) in a crappy time slot you survive, (D) you get moved to a beautiful time slot, and (E) you win an Emmy," Manheim says. "If I had to choose between winning $200 million or being on *The Practice,* I would take *The Practice,* hands down, any day."

Lottery or not, Manheim doesn't attribute her success to luck. Becoming an actress is something she had dreamed about and worked diligently toward since childhood.

As a child, Manheim practiced for her future fame by accepting awards in front of the bathroom mirror and conducting bathtub interviews with the likes of Johnny Carson, Merv Griffin, and Dinah Shore.

That youthful enthusiasm carried her from Long Beach, California—where she spent her teenage years—to Santa Cruz. She learned about the town from UCSC alumni Ivan and Dmitri Karamazov (a.k.a. Howard Patterson and Paul Magid), a popular juggling and theatrical team known as The Flying Karamazov Brothers.

In Santa Cruz, Manheim found her mecca. She earned an associate's degree at nearby Cabrillo College before enrolling at UC Santa Cruz. During her four years in the seaside town, she ran a theater company, bought a house, and taught acting. "The sky was the limit in Santa Cruz," she remembers. "Anything was possible."

It wasn't until graduate school at New York University (NYU) that Manheim's cherished dream of acting professionally suddenly seemed not so possible.

At NYU, Manheim was continually "encouraged" to lose weight. Comments like "We'd like to see a lot less of you in the fall" were common, Manheim says. In response, she took crystal methedrine and lost 80 pounds, but after nearly overdosing, she stopped the drugs and gained back the weight.

After earning her master's in 1987, Manheim struggled to find an agent and supported herself as an interpreter for the deaf.

But she never gave up on acting, securing small roles in the feature film *Bonfire of the Vanities* and in an off-Broadway play, *Hydriotaphia,* written by Pulitzer prize–winning playwright and fellow NYU alumnus Tony Kushner.

Those successes—and years of therapy that taught her self-acceptance—were enough to keep her dream alive.

"It was all I had my sights on," Manheim says. "I knew if I didn't give it the good old college try, I would regret it the rest of my life."

Ironically, Manheim's break finally came when she wrote a one-woman, autobiographical show, titled *Wake Up, I'm Fat!* as a showcase for her talents. She began performing it off-Broadway in 1993. An open, unabashed look at "what it was like to grow up fat in America," the show brought Manheim national recognition and led to parts in several feature films including *The Road to Wellville, Romy and Michele's High School Reunion,* and *Happiness.* The play also spawned a best-selling book of the same title.

What comes next? Manheim has already committed to playing the part of Snow White in an NBC miniseries due to air during February sweeps, and she certainly has no shortage of ideas.

"I'm starting a production company; I'll be making my own movies; I hope someday to run for office; I'd like to have a family. Maybe I'll start a foundation of some kind or lecture."

On the other hand, Manheim doesn't want to get too far ahead of herself. "I don't want to look back years from now and say, 'What happened to me during those years?' I really just want to be sure that I'm absolutely present for all of this magic right now in my life."

—Francine Tyler

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Elizabeth de FOREST (Cowell '84) are "enraptured" by their son Asher Abraham Goldberg de Forest, born in December 1998; Michael is teaching American studies in the Interdisciplinary Arts and Sciences Program at the University of Washington at Bothell, where he has recently received tenure.

'84 David CRAGO is a lt. commander in the U.S. Public Health Service, working as the Drug Abuse Program coordinator for the residential drug programs at the Federal Correctional Institution and the Federal Prison Camp in Florence, Colo.

'86 Robin BARRETT Hastings is now a full-time housewife, busy with remodeling a new home and assisting her husband, **Allen HASTINGS** (Crown '85), with his computer business. **Calvin HUI** is currently working as a network engineer at Silicon Valley Networking Lab.

'87 Megan ROBBINS received a master's degree in school psychology from San Francisco State University in 1990.

'91 Sean DEXTER is completing an M.A. in anthropology from CSU Chico and working as an archaeologist for a consulting firm; he is preparing to act as a field director on a major archaeological excavation of Emeryville Shellmound. Friends can contact him at *sean_dexter@urscorp.com.* **Ellen REITERMAN** moved to San Diego after graduating from Contra Costa College with a C.A. in early childhood education. She writes, "Theater and improv training is a great asset when working with children!"

'92 Robert GROPP has been named the 1999–2000 American Institute of Biological Sciences Congressional Science Fellow. After finishing a Ph.D. in physiology and an M.B.A. in marketing, **Anthony RUSSELL** is now the technical marketing manager at Baxter in Glendale, Calif.

'95 Bincy CHU completed the multiple subject CLAD clear teaching credential program at San Jose State University and is in her second year of teaching kindergarten at Alta Vista Elementary in Los Gatos, Calif. **Nicole FRESQUEZ Lawrence** married **Matt LAWRENCE** (Crown '95) in 1996, and she is currently working at the Monterey Bay Aquarium in the Education Department.

'97 John POLAND is working on a master's at the University of San Diego; he and **Rachel STEVENS** (Crown '97) were planning to marry in August 1999.

Merrill College

'70 Donald OLSEN retired in July 1999 after 25 years with the Sunnyvale Department of Public Safety, where he had served as police commander since 1990.

'74 Rich KITCHENS has been teaching high school social studies for about 25 years and was a basketball coach for about 20 of those years; he is president of the teachers' union and recently received a law degree from John F. Kennedy University in Walnut Creek and has a part-time law practice in the areas of education and labor law.

'79 Jill FEHLMAN enjoys her work as a charge nurse on an adult unit in a private psychiatric hospital; she gardens and raises koi in her spare time.

'86 Jennifer DURRIE MacKay is living in a small town in northern Mexico, running a tourism business, which includes a bed and breakfast, river trips, hiking, and bird watching; she can be reached by e-mail at *solipaso@compuserve.com.*

'88 Shela TOBIAS received her M.B.A. from the University of the Pacific in May 1999 and is taking a position as an accountant with the State of California Employment Development Department.

'89 Clay EVANS published *I Can See by Your Outfit* (Johnson Books, 1999), a memoir of the six and one-half years he spent working as a cowboy.

'90 After spending many summers during high school and college in Oaxaca, Mexico, **Jake LUSTIG** is now president of Reunion Mezcal Company in Oakland, Calif., a business which imports the artesanal mezcal of the Oaxaca area.

'92 Sherry ROUSH received her Ph.D. in Italian from Yale University in May 1999 and began a tenure-track position as assistant professor at Penn State University in fall 1999. **Tamara WHITE Van Hooser** has been married five years and has a nine-month-old son, William Christopher; she is living in Tillamook, Ore., and working as a fourth-grade dual-language teacher (Spanish-English); she would love to hear from friends at *tamara@earthling.net.*

'93 Betsy BRAIT started a graphic and Web design company, Digital Media Visions, in January 1999. **Melissa LUCAS** is exploring the worlds of health care policy and publishing and searching for the next Mia Hamm while coaching AYSO under-12 girls' soccer; her e-mail address is *mlucas@medi-cal.org.* **Esther VARGAS** completed an M.A. in education in May 1999 and married Hector Real, an R.N., in July 1999; she is in her fourth year of teaching a dual-immersion first-grade class in Baldwin Park, Calif.

'96 After graduation from UCSC, **Janeen MALATESTA** did graduate work at Oxford University and at an Italian university; currently she is a substitute teacher and working on an M.A. in English.

'97 Kristi BERES files unemployment claims with the State of California.

Porter College

'73 Christie NICHOLS is a licensed clinical social worker working with recently homeless people with psychiatric illness, substance addiction, and HIV; she was president of the San Francisco unit of the National Association of Social Workers and was nominated for California social worker of the year.

'75 Lori HIGA is West Coast public relations manager for Lucent Technologies Microelectronics Group.

'76 Tamara PINKAS is serving a second year as Faculty Council chair at Lane Community College in Oregon, where she continues to work as a cooperative education coordinator, setting up work-based learning experiences for students.

'77 Rebecca MORGAN and Ken Braly received the 1999 President's Distinguished Service Award from the National Speakers Association for their publication *SpeakerNet News*, a free weekly e-mail newsletter for speakers, trainers, and consultants; the same duo received the Patricia Fripp Outstanding Leadership Award from the Northern California Chapter of the same organization in 1998. **Terence SCHULL** received a Ph.D. in chemistry in May 1999 from George Washington University; he is now working as a postdoc at the Naval Research Laboratory in Washington, D.C. **John YEWELL** has been news editor of *Metro Santa Cruz* since June 1998.

'78 John BOGART taught philosophy from 1985 through 1990 and then went to Stanford Law School; after law school, he first practiced in Los Angeles and now has a practice in Salt Lake City. **David MORI** is a pastry chef for Stanford Alumni Sierra Operations at Fallen Leaf Lake. **Pamela FLINN Schanuel** is living in Colorado, missing the California coastline, and dreaming of returning to the sea.

'79 Barry FOX is the author, coauthor, or ghostwriter of 20-plus books, including the *New York Times* No. 1 best-seller *The Arthritis Cure;* his books and over 160 articles have been translated into 16 languages, and he has appeared on numerous television and radio shows; he lives in Los Angeles with his wife, Nadine.

'81 While continuing her work as a reference specialist for visual resources at the Getty Research Institute in Los Angeles, **Tracey SCHUSTER** is doing consulting work for organizations that need assistance with their archival collections.

'85 Rob LAMMÉ is director of communications for the president pro tem of the North Carolina Senate, where he oversees communication strategy for the senate's Democratic majority; his e-mail address is *robl@ms.ncga.state.nc.us.* **Lisa LICHTMAN Smith** is an associate editor at *U.S. News & World Report* in Washington, D.C.

'86 Mary Cathleen SPOHRER Wilder is a lesbian pagan living in Eugene, Ore.; she received a master's in music from the University of Oregon and is now teaching and performing as a singer-songwriter.

'87 Douglas STYLES completed a doctor of psychology degree in spring 1999; he is working on a collection of short stories titled "Conversations About My Nose."

'90 Eric ELKINS is editor of the weekly kids' section in the *Denver Post;* his latest book, *School Tools,* was published in 1999. **Holly KEENAN** is the proud mom of her eight-month-old son, Jared; she and her husband, Jordan, own a feature-film marketing company, Celluloid Heroes, in Los Angeles. **John ROEVEKAMP** cofounded a software company, Cyrun Corporation, based in Santa Cruz, which manufactures and supports software for law enforcement; the company is in its seventh year, with clients in California, Oregon, Washington, and Wyoming. **Eleanor RUCKMAN** received her master's degree in art therapy/marital and family therapy from the College of Notre Dame in Belmont, Calif., in May 1999; she paints and exhibits her art in San Francisco.

'91 Kristanne BOHNER Heaton and her husband, Sid, are living in Europe, where Kristanne is working on her master's thesis in art history while her husband does research on alternative employee-employer relations by telecommuting to his company back in Silicon Valley; they continue to update their "Extreme Telecommuting" adventures on their

Web page (*www.officeodyssey.com*), which was featured in *Telecommute* magazine.
'92 Sean AARON is employed by the UC Office of the President as a Unix system administrator.

Kresge College

'76 Don McCORMICK has started a new job as an associate professor in the Department of Management and Business at Alfred North Whitehead College at the University of Redlands. **Bob SCHRAER** is married with three sons, ages 19, 16, and 11; he has been self-employed as a flooring and window-covering contractor for the past ten years.
'80 Douglas MANCILL, a partner at Graham & James since 1992, is now posted to Deacons Graham & James in Bangkok, where he handles restructuring matters.
'85 Terrance McLARNAN has a private practice in psychotherapy and is the training coordinator at the Center for Human Development.
'86 Gail CARLSON is now a regional account manager with Roche Diagnostics in diabetes-care retail promotions, representing Accu-Chek brands.
'90 Anne GARNER is teaching first grade and raising two children with her husband, Mathew Plate. **Faye JAHNIGEN** is chief radiological technologist for the Santa Cruz County Human Services Agency; she received an M.S. in health services administration from Saint Mary's College in 1998. **Trent JONES** received the 1999 Phil Killiam Fellowship from the Oregon Shakespeare Festival, where he assisted in the production of *Henry IV, Part Two,* and *Pericles,* as well as directing a staged reading of *Edward III.* **Natalie LUTZ** has been living in France for the past ten years teaching English to French professionals as an independent contractor; "I have two beautiful children and a lovely life but sometimes I get nostalgic for those long-lost friends from my wonderful years at UCSC," she writes. **Elizabeth STARK** graduated from Columbia University with an M.F.A. in writing in 1996; her novel, *Shy Girl*, was published by Farrar, Straus & Giroux (July 1999), and she is at work on her next novel.
'91 Tamara LIEBMAN was planning to marry **Greg GIFFIN** (Cowell '90) in November 1999; they live in Los Angeles. **Elizabeth MAURO** owns a successful art installation business in Seattle; she and her husband, a fellow artist, spend their summers at their cabin on the Yellowstone River in Montana.
'94 After graduation **Jon CARNERO** worked in Japan for three years, got married in Canada, and then went to grad school at Columbia University; now he and his wife are living in Brooklyn.
'95 Misty BURGESS graduated from Arizona State University in May 1999 with a master's in social work; currently, she is the coordinator of a domestic violence shelter in the Seattle area. After living in Israel, Guatemala, and Mexico, **Sara-Rozet NORWICK** has graduated with an M.A. in international economics and finance from Brandeis University and is now employed by one of the "Big 5" in San Jose.
'97 Yan SHAM-SHACKLETON moved back to Hong Kong after a stint in Central America and is working as an editor for a new bilingual community Web site *(www.renren.com)* that aims to provide a home for the global Chinese family on the Web; her e-mail address is *yanipoo@renren.com.*

Oakes College

'75 Danny SYLVESTER recently completed a one-year probationary period as a disability evaluation analyst for the California Department of Social Services.
'82 Robin TOMA is assistant executive director of L.A. County Commission on Human Relations, which focuses on hate crimes, intergroup conflict, and strengthening and building multicultural communities; he was married last year, and he continues to do pro bono lawyering for Japanese Latin Americans abducted and imprisoned by the U.S. during WW II.
'92 Mike SINCLAIR and his wife, Dorota, spent St. Patrick's Day 1999 celebrating the birth of their first child, Alexis Nicole. **Clay ZHANG** is currently a full-time M.B.A. student at Rice University in Houston.
'95 Sandra LOVING graduated from California College of Podiatric Medicine in San Francisco in May 1999 and is now doing a two-year residency at the Veterans Hospital in Palo Alto.

College Eight

'76 Henrietta FINGOLD Bensussen is retiring after almost 20 years at Stanford University Press to devote time to gardening and writing.
'81 Beverly ALEXANDER has been appointed vice president of rates and account services at Pacific Gas and Electric, where she has worked since 1992; she has a law degree from Boalt School of Law at UC Berkeley.
'82 Jean BROCKLEBANK has worked in the field of energy efficiency in residential and commercial buildings since 1982; her work has included a number of projects at UCSC; she can be reached by e-mail at *j45bean@hotmail.com.*
'83 Greg MEYER is a freelance naturalist and leads expeditions to five continents; between travels, he runs a kayak tour company in Santa Cruz and teaches at Cal State Monterey Bay; his e-mail address is *greg@ge-trips* and his Web site is *ge-trips.com.*
'84 Lisa GRAVES is living in Salt Lake City, working at Wild Oats Market, and back in school pursuing a B.F.A. in drawing and painting.
'85 Carl MUTTERSBACH will be a Peace Corps volunteer in Southeast Asia for 27 months beginning in May 2000. **Michael VAN ALTENA** moved to New Meadows, Idaho, where he is enjoying the peace and quiet, working from home as a programmer. **Susannah FREEMAN White** is a licensed acupuncturist living in Bozeman, Mont.
'86 Karen SEMERAU moved back to the San Francisco Bay Area from the Dakotas; she is an office administrator/events planner for a software development company.
'87 Carrie KAHN was awarded a Pew Fellowship for International Journalism for fall 1999; during her fellowship she planned to study international affairs at Johns Hopkins University's Paul H. Nitze School of Advanced International Studies and do in-depth reporting in Mexico.
'95 Kate McFADDEN is finishing her M.S. at Texas A&M University, where she is studying endangered wildlife biology; after completing her master's she will begin a Ph.D. program in conservation biology at Columbia University. **Mark MUIRHEAD** is designing computer systems in Latin America for a large New York–based insurance company.
'96 Andrea HELZER is pursuing an M.S.W. at the University of Pennsylvania and plans to work with abused children.
'98 Matthew SIMMONS worked for a year before opening his own business and buying a house in Long Beach.
'99 After serving as an intern with California Governor Gray Davis, **Patrick CHANDLER** is working for AmeriCorps in Riverside.

Graduate Studies

'75 Marc HOFSTADTER (Ph.D., literature) has published his first volume of poetry, *House of Peace.*
'80 Thomas BASS (Ph.D., history of consciousness) has a new book, *The Predictors*, which follows UCSC grads **Doyne FARMER** (Ph.D., physics, '81) and **Norman PACKARD** (Ph.D., physics, '82) as they apply chaos theory to the global financial markets; the book is a sequel to *The Eudaemonic Pie*, which describes Farmer's and Packard's years in Santa Cruz developing chaos theory while working on beating the game of roulette in Las Vegas.
'87 Edward STEPHENSON (Ph.D., psychology) is an assistant professor of psychology at Florida Memorial College and an adjunct instructor at Miami Institute of Psychology and at Nova University, with a specialty in cross-cultural psychology.
'90 Thomas MADDEN (Ph.D., physics) is a programmer at the National Center for Biotechnology Information, a section of the National Library of Medicine, working as part of a team of researchers on a new generation of protein database search programs.
'91 Eberhard SCHEIFFELE (cert., theater arts) finished his Ph.D. at UC Berkeley and now works as a psychodramatist in Pennsylvania; friends may e-mail him at *scheiffe@math.berkeley.edu.*
'95 Jonathon GRASSE (M.A., music) earned a Ph.D. in music with a cognate in ethnomusicology from UCLA in 1999 and is now a lecturer in world music theory in UCLA's Ethnomusicology Department.
'96 David SONNENFELD (Ph.D., sociology) is a visiting scholar at UC Berkeley during the 1999–2000 academic year; he is working on two books and doing research on environmental reform in Southeast Asia.

In Memoriam

Aaron David McVEY (Crown '84) died in October 1997 of a heart attack. At the time of his death he was working in Rancho Cordova, Calif., for MCI Telecommunications as a senior systems analyst. Prior to that he worked for many years at the National Council on Crime and Delinquency in San Francisco. Aaron was married in 1989; he and his wife had no children.

Periodicals

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