Visionaries of the Visual
Ada Takahashi is one of the many UCSC alumni working as museum and gallery curators and directors.
In my position as chancellor, I am fortunate indeed to come in contact with many of the people that make the UC Santa Cruz community so special: our students, whose thirst for knowledge is only exceeded by their commitment to improve society; our faculty and staff, who diligently see to it that our students receive a world-class education at the same time that UCSC produces impressive research; and our alumni, whose years on campus very often foreshadow important postcollegiate careers.

This issue of the Review underscores the important contributions of just a few members of the UCSC family, people whose work is making a real difference in our world.

The cover story (page 8) shines the spotlight on a half-dozen of our graduates who hold prominent positions on the national art scene. Through their work as curators or directors at some of the country’s most respected art museums and galleries, a number of UCSC graduates are helping decide which works their institutions buy or borrow—and ultimately bring to the public’s attention.

UCSC people are also leading the way in helping to address one of California’s most daunting challenges: the preparation of a new generation of K–12 teachers—educators who will be desperately needed in the state’s classrooms in the new decade. Two years ago, Governor Gray Davis asked the University of California to do more in the area of teacher preparation. As you will see in this issue of the Review (page 14), UCSC’s Education Department has responded to the challenge, launching a 15-month program that provides our students with both a teaching credential and master’s degree in education.

Our faculty and students are achieving distinction in a variety of other ways. Research that is revealing important information about mercury contamination in San Francisco Bay estuaries is one example of that excellence (page 18). In fieldwork involving faculty from UCSC’s newly formed Department of Environmental Toxicology, UCSC graduates, and current students, the extent of contamination from the New Almaden and New Idria mine sites is coming to light. Their efforts could prevent additional contamination of San Francisco Bay Area waters.

In closing, I would like to call your attention to another achievement: UCSC has been selected to participate in one of three new California Institutes for Environmental Energy. It is obviously too soon to report on QB3 findings in this issue of the Review, but stay tuned.
The meeting brought to a close 12 months of senate discussion about the manner in which UCSC will assess the performance of future students. As a result of the pro-NES vote—and a vote on letter grades that was finalized only one month earlier—students who enter UCSC this coming fall will receive letter grades in most of their courses and narratives in all of them. In a separate vote, senators also overwhelmingly endorsed an NES reform resolution authored by Professors Barbara Rogoff and William Ladusaw that, among other things, asked a senate committee to draft guidelines for the writing of narratives and requested administrative support for software that would ease the workload associated with the NES.

Grant helps students ‘gear up’ for college

S tudents in the city of Watsonville will get a boost on their way to college from UCSC, which has received a $3.7 million, five-year federal grant to help disadvantaged students prepare for college. The funding comes from the U.S. Department of Education’s GeER (Graduation Education and Retention) Program, which stands for Gaining Early Awareness and Readiness for Undergraduate Programs. The mission of GeER is to increase the number of low-income students who are prepared to enter and succeed in postsecondary education.

The Educational Partnership Center at UCSC will administer the grant. The funding will support programs at Watsonville High School and its feeder middle schools.
Valley institutions, we already have a strong foundation on which we can develop further academic programs of benefit to the region." 

UCSC will play a key role in one of three new California Institutes for Science and Innovation established in December by Governor Gray Davis. The Institute for Bioengineering, Biotechnology and Quantitative Biomedical Research (QB3) will be centered at UC Santa Cruz and UC Berkeley. The institute promises to lead the next revolution in biomedical research. It will integrate physical, mathematical, and engineering sciences to create powerful new techniques for attacking biological problems of such enormous complexity that they have simply remained unapproachable—until now. This integration of sciences could open the way for discovery of treatments and cures for some of our most intractable diseases, such as brain disorders, cancer, and diabetes.

One focus of QB3 will be bioinformatics—computing methods to sift through the volumes of data generated by the human genome project and other new developments in biomedical research. The institute’s bioinformatics program will be based at UCSC. “As experimental methods become more sophisticated and the role of data skyrockets, the role for bioinformatics is dramatically expanding,” said David Haaster, UC Presidential Professor of computer science at UCSC and a codirector of the institute. He and his colleagues at UCSC have played a key role in the Human Genome Project, assembling the first publicly available working draft of the human genome sequence. UCSC is partner in new science institute

UCSC Astronomy

UCSC Astronomy

NASA Ames park is preferred site for Silicon Valley Center

Chancellor Greenwood has announced that planning for UCSC’s Silicon Valley Center will focus on the proposed NASA Ames Research Park as the preferred site for a permanent location. Further planning studies will lead to a final proposal to the Regents. Among the criteria for siting the center are visibility, accessibility, opportunity, net cost, and alignment with the teaching, research, and service mission of UCSC. Ames Research Center is one of ten field centers of NASA. The proposed site is part of a collaborative R&D campus currently being developed by NASA Ames that includes a range of research and educational, and museum activities. UCSC’s Silicon Valley Center would be situated in an area currently part of the NASA Ames Research Park, which is located adjacent to the existing campus of the NASA Ames Research Center in Moffett Field.

“NASA’s proposed R&D park fulfills the location criteria for the Silicon Valley Center,” Greenwood said. “NASA’s innovative vision for a research complex that emphasizes synergy among participants is compatible with our campus’s goals. Because of our existing research collaborations with NASA Ames and numerous other educational partnerships between UCSC and Silicon Valley institutions, we already have a strong foundation on which we can develop further academic programs of benefit to the region.”

The center is expected to serve as a portal to the UC system, connecting all of the campuses to Silicon Valley, especially in the areas of research. The University of California and NASA share many research areas of interest and strengths, such as biotechnology, nanotechnology, planetary sciences, and astrophysics. In addition, research is expected to be conducted on issues of social justice, education, labor, and economics, among other topics. It is expected that UCSC will offer classes for both undergraduates and graduates at the Silicon Valley Center. The specific curricular offerings and subjects of research are to be determined through planning by faculty, which now is under way.

Astronomers set sights on next telescope

The desire for ever larger telescopes has driven astronomers relentlessly for nearly 400 years. In 1609, Galileo discovered the moons of Jupiter using a telescope with a lens not much more than an inch in diameter. Today, the largest optical telescopes are the twin Keck Telescopes in Hawaii, with 10-meter mirrors that gather the faint light from distant galaxies. But, of course, astronomers still want bigger telescopes, knowing they can yield new insights into the nature and origins of the universe.

The next milestone in telescope size is likely to be one with a primary mirror 30 meters in diameter, which would provide ten times the light-gathering area of each of the Kecks. UC and the California Institute of Technology (Caltech) have teamed up to design and build a 30-meter telescope, dubbed the California Extremely Large Telescope (CELT). The project is still in the early planning stages, but researchers led by UCSC astronomers are making steady progress on the conceptual design for CELT. Project leaders hope to build the massive telescope within the next ten to 15 years. Joseph Miller, director of UC Observatories/Lick Observatory (UCO/Lick), Miller estimated the total cost of the project would be around $500 million, but it’s not clear yet where that money would come from.

Several new faces in campus administration

Four new deans have assumed positions within UCSC’s senior administration this academic year. Wlad Godzich, a department chair at the University of Geneva in Switzerland, is the new dean of the Division of Humanities; Sung-Mo “Steve” Kang, a department chair at the University of Houston in Urban-Champagne, the dean of the Jack Baskin School of Engineering, Carby Sandeen, an assistant dean at UC San Francisco, the dean of University Extension/Summer Session, and Frank Talamantes, of UCSC’s Department of Molecular, Cell, and Developmental Biology, has been named vice provost and dean of Graduate Studies.

Humanities gets boost in funding center

This past October, more than 70 faculty, staff, and students gathered at a Porter College courtyard for an inaugural celebration of UCSC’s new Institute for Humanities Research (IHR). The festive mood of the reception turned even more celebratory following surprise announcements of additional funding for the center. Humanities Dean Wlad Godzich promised to earmark $60,000 over the next three years to support a distinguished lecturer series and, in another surprise announcement, Campus Provost and Executive Vice Chancellor John Simpson pledged $85,000 to the IHR for graduate student support. The IHR was created in 1999 to support humanities faculty and graduate student research and academic programming. The IHR is also the home of the internationally renowned Center for Cultural Studies, one of the nation’s premiere centers of interdisciplinary research. The IHR also supports Focus Research Activities in Feminism, Mind and Meaning, and Pre- and Early Modern Studies (PEMS).
Manganese exposure and Parkinson’s

A new study suggests that too much manganese, an essential element required by the body in tiny amounts but toxic at elevated levels, may contribute to the early development of Parkinson’s disease symptoms in susceptible people.

The new study in animals shows that exposure to low levels of manganese does not directly cause symptoms of Parkinson’s but affects a different part of the brain in a way that exacerbates the effects of Parkinson’s.

UCSC researchers evaluated the effects of low-level exposure to manganese using rats with a condition that mimics pre-Parkinsonism, an early stage of the disease in which no symptoms are apparent. The findings were published this past fall in the scientific journal *Neurotoxicology and Teratology.*

The study highlights the importance of looking at the effects of toxic substances on sensitive subsets of the population who may be most vulnerable, said Donald Smith, an associate professor of environmental toxicology and a coauthor of the paper.

“We are concerned about how chronic low-level exposures to toxic substances may accelerate the emergence of neurodegenerative diseases like Parkinson’s,” Smith said.

The possibility that people in the early stages of Parkinsonism could be especially sensitive to moderately increased levels of manganese is disturbing, he said. Manganese is ubiquitous in the environment and its increasing use in industrial processes may cause some people to take in more of the metal from food, water, and airborne sources.

In addition, increased exposure to airborne manganese could result from the use of the manganese compound MMT as a gasoline additive. Currently, none of the existing protective measures are using MMT, but that could change, Smith noted.

In Memoriam

Ronald W. Henderson, a professor emeritus of education and psychology at UCSC whose research focused on improving educational opportunities for underrepresented minorities, died at his Santa Cruz home in November after a lengthy battle with melanoma. He was 67.

Henderson’s dual academic interests in child development and education fueled his research on social and cultural influences on development, academic motivation, cognition, and mathematics and science education.

His specific research interest was in the development of instructional approaches that would increase achievement and participation in mathematics by Latino students, women, and other groups that are underrepresented in math and the sciences. He specialized in the development of motivation to achieve and participate in mathematics.

Henderson, who joined the UC Santa Cruz faculty in 1977, also served as provost of UCSC’s Crown College, chair of the Academic Senate, and dean of the Division of Graduate Studies.

His illness forced him to retire in 1999.
VISIONARIES OF THE VISUAL

While crowds fill many of this country’s museums and galleries each day to appreciate the soul-stirring qualities of exhibition art, a very small number of individuals—curators and directors—make momentous decisions about the works we stand in line to see. UC Santa Cruz alumni fill many of these important positions, and the half-dozen graduates profiled here make the critical judgments that determine the art that their institutions buy or borrow, which artists to feature, and in what contexts the works will be displayed. With past and present affiliations at some of the nation’s most respected art museums and galleries, these six not only influence how art is viewed today, but how it will be remembered tomorrow. BY BARBARA MCKENNA
AREN MOSS is drawn to both the scholarly and the hands-on worlds of art that have led to positions in either curation or education at such prestigious institutions as the Santa Barbara Museum of Art, L.A.’s Museum of Contemporary Art, and the Walker Art Center in Minneapolis. But it wasn’t until 1999, when she stepped into her current position, that Moss could finally combine her dual passions under one job title.

At the 125-year-old San Francisco Art Institute, one of the country’s premier art colleges, Moss curates exhibitions in the institute’s three galleries, manages an extensive public programming schedule, and oversees a far-reaching community education program. Moss credits her wide-ranging interest in art to her training at UCSC. “The direction I took in my career was very much influenced by my studies in art history and the experiences I had in a museum studies seminar at UCSC,” she says. “You were allowed to do things at Santa Cruz that absolutely didn’t happen in other places.”

Philip Brookman
Senior Curator of Photography and Media Arts
Corcoran Gallery of Art, Washington, D.C.
Individual Major, 1975

RECIAN STATUES, Renaissance landscapes, and other classical art will always occupy a prominent place in the art world. But, for more than a quarter century, Philip Brookman has been expanding exhibition practice to foster another important function of art—the reflection of everyday life.

During his eight-year tenure at the Corcoran, Brookman has curated scores of critically acclaimed exhibits, unveiling gritty and evocative realities—the hardened faces of homeless children; the pill-riddled rooms of dying cancer patients; guileless moments of exuberance, compassion, and intimacy.

Brookman’s approach brings with it occasional controversy, perhaps the most publicized example being a 1989 exhibition at the Washington Project for the Arts (WPA) of the homoerotic works of Robert Mapplethorpe. The show was originally slated to go on exhibition at the Corcoran, but was canceled just weeks before the opening for political reasons. Brookman, a curator at the WPA at the time, and UCSC alumnus and then-WPA executive director Jock Reynolds, decided to bring the show to the WPA.

“It wasn’t a hard decision,” Brookman says. “We wanted people in Washington to see what they were being told they couldn’t see. And people came in great numbers. I think we had about 50,000 people in 25 days. No one had seen anything like it.”

“I have worked for a long time to rethink what a museum is and what a museum does,” says Brookman, whose career also includes curatorial positions at UCSC’s Sesnon Art Gallery, San Diego’s Centro Cultural de la Raza, and the National Gallery of Art.

“For a long time museums were mainly history archives. What I am aiming for is not so much a traditional academic look at art and art history, but art as it connects to the community, to people’s lives.”
Jock Reynolds
Director, Yale University Art Gallery, New Haven
Psychology, 1969

AKING ON THE JOB
in 1998 as director of the Yale University Art Gallery—America’s oldest university teaching museum and home to a collection of more than 86,000 works—was a logical step for the former director of a cutting-edge graduate program in interdisciplinary arts (San Francisco State University), executive director of a dynamic artists’ organization (the Washington Project for the Arts), and director of another prestigious academic museum (Phillips Academy’s Addison Gallery of American Art).

As a practicing artist, Reynolds and longtime artistic collaborator and wife, Suzanne Hellmuth, have created large-scale visual theater productions, installations, and exhibitions that have been seen around the world. Their works have been commissioned by MIT, the Carnegie Library, and the University of Washington, while some of their studio art resides in such collections as the Walker Art Center, the Corcoran Gallery of Art, and the Smithsonian.

But it is his role as a teacher that Reynolds values most. For ten years Reynolds was a member of the San Francisco State University art faculty, and, from early in his career, he has made it a priority to play an active role as an educator. It’s a thrill to continuously engage the minds and creative curiosity of young people.”

Keith Christiansen
Curator of Italian Paintings, Metropolitan Museum of Art, New York City
History and French Literature, 1969

IN HIS JOB, Keith Christiansen comes face to face with some of the most magnificent art in the world. A staff member at the Met for the past 23 years, Christiansen oversees the museum’s collection of 14th- through 18th-century Italian paintings. This gives him a full palette of job duties—from examining paintings with infrared equipment, to matching a Renaissance masterpiece to a period frame, to installing exhibitions at the Met using art from around the world.

Christiansen’s detailed grasp of art history is essential in curating a show, but so is a certain pragmatism. “Exhibitions take place in a negotiable realm between the ideal and the practical,” he says. “You get in your mind the works of art you need to carry out your concept, and then the negotiating and bartering begins: You learn that a work that would perfectly exemplify a certain period or style is never put on loan, that another has all the right components but is in terrible condition, and yet another belongs to a museum that is already lending you two paintings and won’t be thrilled about making a third loan.”

Christiansen not only decides what the public will see, but also what the museum will buy—heart-pounding decisions that can carry price tags into the millions. “If you’re laying down $2–5 million on an acquisition, it’s vital to have a clear, unbiased reaction to the piece,” he says. “We all have these ingrained responses that, when you’re making this kind of a purchase, you can’t afford to follow uncritically. You have to stretch your expectations and ask, ‘What am I looking at? How does this compare to works from a similar period? What will it add to the collection? Does it represent a historically pivotal moment?’ You have to be absolutely certain—intellectually and intuitively.”

Ada Takahashi
Director and Partner
Robert Koch Gallery, San Francisco
Aesthetic Studies, 1975

OST ART GALLERIES emphasize selling art, not collecting it. But the Robert Koch Gallery in San Francisco has gained an international reputation not only as a distinguished vendor of fine photography, but for its unique collection of vintage 19th- and 20th-century European and American photography.

Ada Takahashi, who has been with the gallery since 1986, shares duties with co-owner Robert Koch. Once a photographer herself, Takahashi now focuses on curating shows and managing the gallery. She began her professional career as a researcher at the San Francisco Museum of Modern Art, but quickly moved into gallery work where she found more opportunities for interaction with people—discovering new artists and sharing their work with others.

“It’s exciting to come across new work,” she says. “When it’s a great discovery, you know it right away. The great pieces captivate your perception visually, intellectually, and intuitively. And then, when you can ultimately exhibit that work—when you see it up on the wall—that’s a very satisfying experience.”
UC Santa Cruz responds to California’s teacher shortage with a bold new program

Carol Krantz was about to give up on her lifelong dream of becoming a teacher when she heard last year about a new program at UCSC that offered both a teaching credential and a master’s degree in education in just 15 months.

Krantz, 58, had decided at the age of 12 to become a teacher, but marriage and children had sidetracked those plans. Having recently earned her bachelor’s degree in American studies at UCSC, Krantz couldn’t afford two more years of school.

UCSC’s program, which combines preparation for classroom teaching with an emphasis on the theoretical basis of teaching and learning, was a perfect fit for her.

“I feel like this is what my destiny has always been,” said Krantz, who is preparing to teach third grade. “I have always loved teaching. It’s just a part of me.”

Eighty-five students are enrolled in the inaugural class, and many cite the 15-month schedule as a major factor in their decision to choose UCSC. Yes, it’s rigorous, they all agree, but the prepar-
The recognition that good teaching grows over a lifetime.

At UCSC, teacher preparation can begin at the undergraduate level with a minor in education. In addition to the credential/master's program, UCSC administers the very successful New Teacher Project, which provides professional development and mentorship opportunities for teachers during their first two years in the classroom. The model has been so successful that it is being expanded beyond the Monterey Bay Area into Silicon Valley, and it is being replicated in school districts across the state.

Next on the department’s agenda: a new doctoral program in education that would prepare the next generation of faculty for UC and California State University schools of education. Currently in the proposal stage, the Ph.D. program is targeted to begin in fall 2003.

For UCSC’s faculty, preparing badly needed teachers offers several levels of gratification: There: no doubt their students will find jobs, and there is satisfaction in knowing that UCSC offers follow-up professional support after graduation. There is also comfort in knowing that former Ph.D. student Professor Pete Wilson’s class-size reduction efforts have improved the classroom environment for everyone.

“As a taxpayer, my fear was that if we didn’t do something to speed up the credentialing process and get more teachers in schools, the state would be putting untalented people in the classroom, and that would reduce the quality of public schools.”

—Jennifer McNulty

between 250,000 and 300,000 new teachers will need to be hired in the next ten years. That rivals the size of the entire teacher workforce today, which numbers 284,000. The task is even more daunting given that California currently issues only 20,000 new credentials each year but will need to hire 36,000 teachers per year to meet the demand.

In 1999, when Governor Gray Davis tapped the University of California to beef up its teacher-preparation programs, UCSC was quick to respond. Santa Cruz, in fact, was the only campus that was able to launch an intensive program by summer 2000. “We plunged,” said Justus, chair of the UCSC Education Department. “I went to the UC Office of the President and said ‘Help,’ and they gave our campus the resources we needed to conduct our successful two-year program into 15 months.”

UC campuses historically have prepared only about 4 percent of the teachers who are credentialed in California. Private colleges and universities credential another 30 percent or so, and the rest earn their credentials at California State University campuses. Davis asked UC to double its share, and he backed his directive with resources, including the Governor's Teacher Scholars Fellowship, which cover tuition for aspiring teachers who commit to work for four years in low-performing, hard-to-staff schools following graduation.

Fifty of UCSC’s current students are enrolled in the fellowship program. The UCSC curriculum places a strong emphasis on the challenges facing urban school districts.

“The curriculum manages to be honest and engaging, without trivializing our students or our problems.”

—Jennifer McNulty

The UCSC curriculum plays a critical role in preparing teachers to work in diverse settings, beginning with the students’ first classroom assignments in low-performing, hard-to-staff schools. The curriculum places a strong emphasis on the challenges facing urban school districts.

“The curriculum manages to be honest about teaching conditions while also inspiring us to believe that we can face those challenges in the classroom.”

—Jennifer McNulty

The UCSC curriculum also emphasizes the importance of culturally responsive teaching. The program’s breadth and depth have historically prepared its graduates to take on leadership roles “right out of the starting gate,” said Justus.

UCSC’s Color of Teaching, which explores the cultural and social forces that discourage people of color from becoming teachers. The reasons vary depending on the ethnic group, according to Gordon. Family discouragement is a common theme, as are the lack of respect and financial burden that many of them face. Gordon said that the complexity of teaching and portraying the reality of the profession would help correct misperceptions, she said.

Castillo, 25, sees teaching as a road to social change. “I’m an activist, and teaching to me is a form of activism,” said Castillo, who was a union organizer with the United Farm Workers as a UCSC undergraduate. “My dad used to pick strawberries, and he said, ‘If you really want to make a difference, you’ve got to be a teacher. Start with the little kids and try to be a role model.’ ”

After college, Castillo taught fourth grade with an emergency credential in his hometown. It was a difficult nine months, in part because of the chilly reception he got from his students. “I didn’t feel there were voices out there that could be heard. I can provide a means for those voices to be heard, because I know what they sound like.”

—Jennifer McNulty

UCSC has also contributed significantly to a rethinking of teacher education and professional development. “We’re moving away from saying that when you get your credential, you’re ready to teach,” said Justus. “It’s a recognition that good teaching grows over a lifetime.”

The challenge facing urban school districts is the struggle to build a diverse teaching force. Gordon, author of the book The Color of Teaching, which explores the cultural and social forces that discourage people of color from becoming teachers. The reasons vary depending on the ethnic group, according to Gordon. Family discouragement is a common theme, as are the lack of respect and financial burden that many of them face. Gordon said that the complexity of teaching and portraying the reality of the profession would help correct misperceptions, she said.

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A UCSC graduate student in 1997, Priya Ganguli had not yet settled on a research subject for her thesis when she came upon a strange-looking creek during a field trip.

The creek was bright orange, stained with iron oxides draining into it from an abandoned mercury mine. Intrigued, Ganguli decided to find out what else was escaping from the New Idria mine into San Carlos Creek, which flows into a wildlife refuge at the headwaters of the San Joaquin River.

What she discovered not only earned her a master’s degree, but helped focus attention on a serious environmental problem.

Ganguli found that mercury, a highly toxic element, was entering the creek from the mine and nearby piles of mine tailings. Spurred by her findings, Ganguli’s adviser, professor of environmental toxicology Russell Flegal, launched several new research projects looking at various aspects of mercury pollution.

“Mercury is starting to surpass lead as one of the biggest environmental concerns in the U.S. and throughout the world,” says Flegal, one of the world’s leading experts on lead and other trace metals in the environment.

As chair of UCSC’s newly established Department of Environmental Toxicology, Flegal oversees a unique interdisciplinary program that is addressing a broad range of issues concerning potentially harmful chemicals and microbes in the environment (see sidebar). His lab’s findings on mercury are helping the San Francisco Regional Water Quality Control Board to develop a plan to clean up mercury pollution in the San Francisco Bay Area. Ganguli, meanwhile, is one of two former students from Flegal’s lab working on mercury cleanup efforts for the Regional Board.

San Francisco Bay consistently exceeds water quality standards for mercury. Some popular sport fish in the estuary contain such high levels of mercury that they are unsafe to eat. High mercury concentrations have also been found in failed eggs of an endangered bird, the California clapper rail, that nests in the bay’s marshes.

According to Ganguli, some mercury from the New Idria mine, located in San Benito County, may travel down the San Joaquin River and contribute to the contamination of San Francisco Bay. But the largest single source of mercury pollution in the bay appears to be another inoperable mine that Flegal’s lab is now investigating.

The New Almaden mining district in the Santa Cruz Mountains near San Jose was once the largest producer of mercury in North America. Mining operations at New Almaden shut down in 1975, and the area is now a Santa Clara County Park. But Flegal’s lab is finding that mercury from the mines and associated waste piles is making its way into the Guadalupe River, which empties directly into the southern end of San Francisco Bay.
M ost people know mercury as the silvery liquid metal used in thermometers, but it occurs in a variety of other forms. All forms are toxic, but the most dangerous is an organic form of the element known as methylmercury. A potent neurotoxin, methylmercury readily enters the aquatic food chain and becomes concentrated in the tissues of fish and the animals that eat them. Through the process of biomagnification, concentrations of mercury in predatory fish can be a million times higher than in the surrounding water.

In humans, mercury’s toxic effects on the nervous system can lead to serious illness and death. Symptoms include shaking, slurred speech, loss of coordination, and changes in mood and personality. The expression “mad as a hatter” came from the effects on 19th-century hatmakers of the mercury salts used to make felt. In the 1950s, mercury discharged by a factory into Japan’s Minamata Bay accumulated in fish and poisoned thousands of people in the fishing village of Minamata, killing more than 800.

But current concerns about mercury are focused on more subtle health effects from exposure to low levels of methylmercury. According to a recent report from the National Academy of Sciences, as many as 60,000 children may be born each year in the United States with neurodevelopmental impairments caused by exposure to methylmercury in the womb. At greatest risk are children whose mothers consume large amounts of mercury-tainted fish while pregnant or nursing.

“What appears to be happening with mercury is the same thing we’ve seen with lead—the more carefully researchers look, the more they discover subtle health effects from low-level exposure,” Flegal says.

Compared with human health effects, much less is known about the effects of mercury on wildlife. In the 1980s, Flegal and his coworkers looked at mercury levels in marine mammals, fish, and invertebrates. They found especially high concentrations in marine mammals, but the effects are still unknown, he says. “If they were humans they’d be in trouble,” Flegal says. “But we don’t really know what the effects of mercury are on marine life in San Francisco Bay.”

The possible connection between mercury and egg failure in endangered California clapper rails, however, has intensified the pressure to clean up mercury pollution in the bay. “When I sat down with the numbers and looked at the distribution of mercury in San Francisco Bay, I saw a clear signal leading into the South Bay,” he says.

That was surprising, because a substantial amount of mercury enters the north end of the bay through the Sacramento–San Joaquin Delta from old gold and mercury mining sites that drain into the Central Valley, so Abu-Saba asked Flegal if his lab could take a look at mercury contamination in that region. Martha Thomas, an undergraduate working in Flegal’s lab, and graduate student Christopher Conaway took on the project.

“They produced some of the first measurements of methylmercury in sediments from the Guadalupe River watershed, and that gave us the smoking gun we needed to show that New Almaden is the biggest ongoing source of mercury pollution in the bay,” Abu-Saba says.

Ongoing sampling in the Guadalupe River shows a lot of mercury coming down the river from the New Almaden mining district, Conaway says. “In some places, people have even been able to pan liquid mercury out of the sediments,” he says.

Abu-Saba’s draft report calls for a major reduction in the mercury load coming from the Guadalupe River. The Santa Clara Valley Water District, as well as the Santa Clara County Parks, would be primarily responsible for achieving that reduction, he says. Abu-Saba says. Ongoing sampling in the Guadalupe River shows a lot of mercury coming down the river from the New Almaden mining district, Conaway says. “In some places, people have even been able to pan liquid mercury out of the sediments,” he says.

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Environmental perils: An interdisciplinary approach

H eavy metals, pesticides, diseases, pathogenic bacteria—a dizzying array of pollutants and harmful organisms has made its way into our environment, raising disturbing questions for our industrial society. Are there toxic chemicals in our drinking water, our food, the air we breathe? What level of exposure is harmful to human health? How are pollutants affecting wildlife and complex ecosystems?

UCSC’s Department of Environmental Toxicology, established in the summer of 2001, is addressing these issues through scientific research, teaching, and collaborations with state and federal regulatory agencies. With a growing range of interdisciplinary research programs, the department builds on UCSC’s recognized strengths in environmental research.

The department’s faculty are widely recognized for their work on toxic heavy metals and harmful bacteria. Ultimately, the results of their research may lead to new methods for controlling environmental hazards and for counteracting the health effects of pollutants.

“We want to identify the sources of toxicity in the environment and understand how they become a threat to organisms, including humans,” says Russell Flegal, who chairs the new department.

The department, which offers graduate programs leading to M.S. and Ph.D. degrees and undergraduate courses in environmental toxicology, fills a distinctive niche, Flegal says. Most other toxicology programs are associated with medical schools and focus primarily on human health, while UCSC’s program focuses on all types of organisms, including humans.

In addition to Flegal, who studies how human activities affect the cycling of trace elements in the environment, the department includes:

►Assistant Professor Karen Ottemann, who studies how pathogenic bacteria respond to their environment and infect their hosts.
►Associate Professor Donald Smith, who studies the biological effects of heavy metals and is involved in efforts to improve treatments and reduce human exposure to lead;
►Assistant Professor Zhou Zhou, who studies the molecular mechanisms involved in the regulation of metal ion concentrations inside cells.
Association brings alumni writers to UCSC

Alumni poets, novelists, journalists, technical writers, memoirists: all are part of The Writing Life, a course created at Kresge College over the last two years with the support of the Alumni Association's Distinguished Visiting Professor program. “We wanted to bring alumni back to campus to talk about how they’ve made lives around writing,” Provost Paul Skenazy said. “A list of our students are transferring trying to figure out what to go where they learn at the university. We’re showing them what some writers have done with their education at UCSC.” Kresge was able to create the course by combining college alumni funds with funds from the Distinguished Visiting Professor endowment. Mini-grants support three to four-day residencies that bring alumni to campus to read from their work and meet with students. In 1999, Gloria Anzaldúa, author of Borderlands/La Frontera and other books, talked with students about her work as a poet, community activist, and essayist focusing on women of color. Last fall, freelance journalist and memoirist Don Wallace (Kresge ’74) and New Yorker staff writer William Finnegan (Kresge ’74) worked with core-students on issues of race, gender, and culture. In February, post Mark Jamison (Porter ’74) is reading poetry and post-narrative. In April, Nora Okja Keller (Graduate Division ’90), whose book, Comfort Women, mixes memories of the Japanese occupation of Korea with contemporary issues of a daughter’s struggles with her mother, will read from her new work.

Subsequent to these residency, alumni are thankful for...
“Lost and Found Sound”

Thomas Edison cracking the material for the series comes from the listeners themselves, who have auctioned their attic, basement, and garages for personal recordings of historic events, audio letters, and other sonic artifacts. “The ability to record sound is just over 100 years old,” says Silva, who has coproduced radio projects with Nelson for two decades. “There was a written record prior to 1900 and an oral tradition before that, but the 20th century was the first that was completely documented through the medium of recorded sound.”

Lost & Found Sound got its start with Nelson, who, learning of a project commemorating the last century in photographs, realized the same could—and should—be done in sound. After approaching award-winning radio producer Jay Allison and discussing the project with friends and colleagues from across the country, Nelson and Silva proposed the series to the National Public Radio (NPR) network. With NPR’s support, the project mushroomed into a national collaboration, involving radio producers, public radio stations, creative artists, and listeners. “Each person and radio organization that got involved has added some of their imagination and their vision to it,” says Nelson. The series has received critical acclaim, winning a 1999 George Foster Peabody Award for excellence in radio and a 2000 Clarion Award for excellence in radio documentary. The series website, at lostandfoundsound.com, received a 2000 Webby. In addition, a selection of the NPR pieces is now available as a two-CD set, Lost & Found Sound: Volume One.

For their work on the project, which they oversee and produce with Allison, Nelson and Silva have received a variety of awards for their innovative and creative work. They have also been digging into archives of recorded sound and interviewing pioneering disc jockeys, record producers, eccentric sound collectors, and everyday people who were willing to share their recordings. The experience reminded Nelson and Silva of their work at a Santa Cruz radio station in the late 1970s and early 1980s, when they cohosted a show as the Kitchen Sisters. “They took their name from 1950s Santa Cruz mammas into a national collaboration, involving radio producers, public radio stations, creative artists, and listeners. Each person and radio organization that got involved has added some of their imagination and their vision to it,” says Nelson. The series has received critical acclaim, winning a 1999 George Foster Peabody Award for excellence in radio and a 2000 Clarion Award for excellence in radio documentary. The series website, at lostandfoundsound.com, received a 2000 Webby. In addition, a selection of the NPR pieces is now available as a two-CD set, Lost & Found Sound: Volume One.

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and 1,000 albums.

97 Rose ROSENBERGER develops career; Rose Ruby Dance Ensemble is forming in celebration of its tenth anniversary in 2000–01.

98 Lawrence WILSON is an emergency medicine physician in Mercer, Tex., associate medical director of the Physician Assistant Training Program at Texas Tech Medical Center, and emergency medical services director for Mercer; four to six weeks a year he is also a cruise ship physician with Holland America.

99 Julia HAMBLIN Pinsky is working at home as close to her daughter, Emma Louise, and enjoying Santa Cruz still after all these years.

96 Heidi SIMONSON received the Commitment Award from Santa Clara University Law School for her years of service as an attorney providing pro bono legal assistance for low-income women in the Santa Cruz area. Stacy HANDELSTAM moved to San Mateo; at 955 St. Mark Street in 2000; she received her M.A. in education and creative arts and is working as an instructional coach for teachers.

97 Leda SCHUSTER is teaching music at UC Santa Cruz; she is the mother of a five-year-old girl.

98 After finishing her Ph.D. in political science at Claremont Graduate University in 1999, Elizabeth JAGOW is teaching at the University of Florida as a visiting assistant professor.

98 Suzanne McCAFFREY-SAVILLE is the author of Paving A True History: A Peace Page Short, Sweet Conclusion (Lawrence, Kan.: University Press of Kansas, 1998).

99 After serving as the executive director of the American Chambers of Commerce in Ushabtina, Abasch MIDWAL and her husband have moved to Ankara, Turkey, where they are now seeking employment on projects like President Clinton's state visit to Turkey. Michael WILLIAM is a partner in a large multimedia company; he and his wife are expecting their first child in June 2000.

99 Michele WILSON is a social worker at the Golden Gate Regional Center working with developmentally disabled clients, and she is pursuing her license in clinical social work.

99 Elizabeth FEFERBAUM-Stark is working at Kaiser Permanente in the Department of Internal Medicine as a physician assistant; she and her husband live in West Oakland; they are planning to visit ElSalvador in August 2000. Winston HOLYAN and his family have been living in the downtown area of Clontarf, N. M., where he is working as a firefighter and training with the New Mexico National Guard in air defense artillery; in his spare time he is studying for the LSAT. (Sung) Grace CHU is a postgraduate student in English at the University of Maryland; she and her husband, Sung, their son, Erik, in Washington, D.C. Lisa SONIN Larsen is completing her graduate certificate in psychology from John F. Kennedy University; she’s been married to Bob since 1992 and their two sons, Christopher Carey-STRONCK and Jacob, are in high school.

98 Paul BROCK is studying at the University of California at Berkeley; he also works as the city planner in Seattle and doing jazz vocals around town occasionally. After working as an attorney for five years in San Jose, David LERNER moved to San Diego; he serves as the position vice president for WCric.com, an Internet start-up, and is planning to retire soon.

79 Michelle MA is graduating from the Yale University Physician Assistant Program this year.

91 Maria DEVLIN is a bilingual news anchor as well as the host of a weekly Japanese TV show airing in Japan.

90 Donald KERNS and his family have been working as a city planner in Seattle and doing jazz vocals around town occasionally. After working as an attorney for five years in San Jose, Richard Krause, have been living in Singapore for four years; they travel on their breaks to destinations in Asia, most recently to Vietnam and Thailand.

91 Hillary MAY is a public school teacher in San Jose and lives in the Santa Cruz Mountains with her wife, Sharon, and their two children.

79 Jonathan SLATER has worked for a nonprofit economic development organization in southern California, which provides business assistance, entrepreneurial training, job training and placement, and affordable housing. After returning to Guam in 1990 to join the family business, he moved to Japan.

80 Alemian in September 1997.

85 Ellen ELIAS Silver is a public school teacher in San Jose and lives in the Santa Cruz Mountains with her wife, Sharon, and their two children. She is a natural hatmaker and bridal veils for upscale department stores and boutiques nationwide.


79 Caryn NARDELLO at the Golden Gate Regional Center working with developmentally dis-abled clients, and she is pursuing her license in clinical social work.

99 Naomi DEVLIN at the Golden Gate Regional Center working with developmentally dis-abled clients, and she is pursuing her license in clinical social work.

99 Philip PLATH (Stevenson '84).
2-D and 3-D digital effects and digital painting at DreamWorks Feature Animation. 

Kristin Stevens in San Antonio; she is painting, showing her work, and raising her 12-year-old son.

Kreso College

74 Gary MERRILL joined Cascus Systems, the leading provider of online business conference software. He is also one of the Senior Executive faculty at Santa Clara University.

Belinda VAN SICKLE lives in Santa Monica and works as a Borders bookseller. She was recently appointed to serve as CIO at the University of Arizona.

Kathrine MILLER is an associate professor of biology at the University of Wisconsin–River Falls. She and her husband, John, have lived in China and are now working on the discovery of the new chemistry/biology building; many of his students are now distinguished undergrads at UCSC, doing research with Professor Bakthan Singaram.

Michael POOLE (Ph.D., horticulturist) leads a research program on wild dolphins and whales in French Polynesia. He is also the director of a biological station associated with the University of Perugia in France. His research is supported by the Discovery Channel and Animal Planet as well as in two documentaries.

DeShawn FULLER (M.D., medical student) is a first-year graduate student in cancer biology.

Quark Central:

Lisa KERR joined EnContacto.Net, which will enable her to work on her dissertation and site administration.

Julie PERRUZZI (M.A., educational adviser) is working as an educational adviser for the VOA Educational Talent Search Program, and she is working on her master’s in counseling.

Patricia BEDFORD (Oakes ’91); she is happily “homesteading” in a very remote part of Alaska.

Judith TOTMAN Parrish–Ramirez (M.A., education) and her third-grade bilingual teacher at Ohlone Elementary School in Watsonville; she loves her job and describes her first year of teaching as “an incredible learning experience.”

John SCHMUCK is now program coordinator for the Golden Gate National Parks Association; he has performed at Chutzpah, a San Francisco Jewish dyke event, and at T ranny Fest, a transgender film festival. 

Oakes College

77 Angela BEAN wins her own hat-making and become a film partner; Heidi, have been together for 18 years and have two children.

Nancy FOSTER works as a research assistant for a pre-IPO start-up biotech company and is a waitress at one of the top 100 restaurants in the Bay Area.

Maria GALLARATE (Stevenson ’89), 2-D digital effects and digital painting at DreamWorks Feature Animation.

Sanda BAILUND-VAN BEEK (Oakes ’91) earned a Ph.D. in anthropology from the University of Cambridge, now associate dean of the College of Science at the University of Arizona, as well as a professor of geology.

Richard RAMIREZ (M.A., literature) is chair of the Department of Judaic and Near Eastern Studies at the University of Massachusetts, Amherst, with a new book, The Wheel of Fortune; he loves his job and describes his first year of teaching as “an incredible learning experience.”

Robert RICE is a professor of anthropology at the University of California, San Diego, and is working on the development of the new chemistry/biology building; many of his students are now distinguished undergrads at UCSC, doing research with Professor Bakthan Singaram.
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