

A large flock of seabirds, likely terns, is shown in flight against a clear blue sky. They are flying over a cliffside that overlooks the ocean. The birds are in various stages of flight, with some landing on the cliff and others soaring.

# CA&ES OUTLOOK

A publication for alumni and friends of the College of Agricultural and Environmental Sciences • UC Davis • Spring 2004

A close-up shot of a person's hands holding a large, fresh fish, possibly a salmon, over the ocean. The fish is held horizontally, and its scales are glistening. The background shows the white foam of waves crashing against a rocky shore.

## **THE ENVIRONMENT**

### **A Matter of Balance and Cooperation**

# CA&ES OUTLOOK

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## Message from the Dean

By Neal K. Van Alfen

Our college is rich with tradition. The historic buildings on campus reflect this tradition, with any visit to the Silo reminding students and visitors that UC Davis has its origins in agriculture.

Although we are proud of our heritage, our college must remain dynamic in its educational, research and outreach programs.

Just as the agricultural economy is very different today than it was 50 years ago, our college's programs also have changed. Our programs no longer are focused primarily on agriculture production and home economics. Probably one of the most fundamental changes in the nature of our college has come with the development of our environmental science programs, the origins of which were the vision of former Chancellor James Meyer when he was dean of our college.

The growth of our environmental science programs mirror changes in our national ethic regarding our environment. I am old enough to remember the impact of Rachael Carson's writings about the environment and, as a student, became drawn to the issues that she raised. I was not alone, and it was during this time that our college responded to the interests of students and the research needs of our stakeholders. It was also during this time that our college's environmental programs started to grow.

Today, these programs are among the finest environmental science programs in the country. The Institute for Scientific Information (ISI) recently ranked UC Davis as the country's top university in publication of research in areas of environmental and ecological science.

CA&ES environmental science programs are diverse in nature but tend to be focused on the application of knowledge to solve problems, as is true of the other programs of our college. Environmental scientists are found throughout the college, not only in the Division of Environmental Sciences.

- The current chair of the intercollegiate Ecology Graduate Group, Professor Ed Caswell-Chen, is a member of the Department of Nematology.

- In the reorganization of our plant sciences, a section of the department will be formed around the theme of crop sciences and agroecology. This group will contain many of our college's pre-eminent environmental plant scientists.

- Animal science faculty study animal waste and air quality management, major issues related to animal production in California.

- Our Tahoe Research Group is world famous for its studies of issues related to water quality of Lake Tahoe.

- We have a strong contingent of scientists whose research focuses around the facilities of the Bodega Marine Laboratory, and our scientists are the most frequent users of UC Davis' Natural Reserve System.

- Watershed issues, riparian zone management, effects of grazing on grasslands and oak regeneration are studied at ANR Research and Extension Centers.

- We study global climate change, aquifer hydrology, carbon sequestration, and a multitude of other issues that are frequently mentioned in the news and are important to the citizens of California.

One of the most important characteristics of environmental research is its interdisciplinary nature. It takes teams of scientists from diverse disciplinary backgrounds to understand processes in the environment. Our environmental scientists have led the way on campus in forming teams to address important problems. This team-building approach to solve problems is a model now being used across all areas of the sciences.

It is very likely that our success as a campus in building programs of excellence in the environmental sciences is due to our campus culture of being able to easily work across departmental and college boundaries.

It is fairly easy to identify the benefactors of our agricultural research efforts. Our environmental sciences

research serves a much broader base of stakeholders. Agriculture is a very important stakeholder of our environmental sciences research, but so are those who live in urban centers and want clear water and air.

While it may be difficult to come to agreement as to what the nation's changing environmental ethic entails, it is clear that the majority of our state's citizens think differently now about our natural resources than they did 100 years ago. These changes have resulted in a considerable body of legislation -- both locally and nationally -- to protect our environment.

In many ways, environmental policy has preceded the good science that is necessary for sound legislation to protect our environment. Our college plays a very important role in being a source of science-based information that can be used in policy development. The study of how policy should be formulated is one of those areas of the environmental sciences in which we have and will continue to invest.

You will read about several of the environmental science programs in our college in this issue of *CA&ES Outlook*.

I hope that this issue will stimulate your interest and help you see how our college is changing to continually be in the forefront of issues important to the citizens of California. Ultimately, we must find a way to use the incredible natural resources of this state to extract our food, our water and our living space in a way that assures that future generations will think kindly of us.



Neal K. Van Alfen  
(Ph.D., '72, Plant Pathology)  
Dean, College of  
Agricultural and  
Environmental  
Sciences

# The Environment: A Matter of Balance and Cooperation

By Dorothy Ross

Environmental science is essentially multidisciplinary, encompassing a wide range of biological, physical and social sciences. Virtually all environmental research and outreach programs in the College of Agricultural and Environmental Sciences include partners across this campus and throughout the UC system, in addition to a multitude of governmental agencies.

**Dennis Rolston**, professor in the Department of Land, Air and Water Resources, is director of the John Muir Institute of the Environment (JMIE), a campus-wide ORU (organized research unit) that provides a supportive infrastructure for interdisciplinary research on environmental issues.

Rolston stresses that, "Our work is collegial and collaborative, involving various colleges and centers on campus."

## Road Ecology

JMIE's newest initiative is the Road Ecology Center, a joint venture with the Institute of Transportation Studies (ITS). Road ecology, a relatively new field of study, integrates ecological sciences, engineering and social sciences to study the interaction between roads and their surrounding natural and human environments.

**Alison Berry**, professor in the Department of Environmental Horticulture, is director of the Road Ecology Center. **Daniel Sperling**, professor in both the Department of Environmental Science and Policy and in Civil and Environmental Engineering, is associate director of the center and ITS director.

**Catherine Toft**, professor in Evolution and Ecology, serves as associate director of both JMIE and the Road Ecology Center. At least a dozen CA&ES researchers serve on the ITS faculty, and the college is represented by 15 researchers in the Road Ecology Center.

Research into the environmental effects of transportation is vital because, as Sperling says, "In California, within the next 20 years, it is estimated that another 12 million people will be driving 55 percent more miles per year in 20 million additional vehicles."

The state's landscape must support this burgeoning human population, rapid rates of suburban development, farmland conversion, congested urban road systems and ever-expanding use of natural areas for recreational purposes.

UC Davis, and particularly the College of Agricultural and Environmental Sciences, is well situated to play an important role in assessing the impacts of transportation on our natural systems, and in shaping the future directions of planning and construction of environmentally sustainable transportation.

The Information Center for the Environment (ICE), housed within the Department of Environmental Science and Policy, is a research laboratory that focuses on the development and dissemination of environmental information aimed at decision making regarding resource management and policy formation.

According to **Michael McCoy**, academic administrator for the department and ICE co-director, the center has developed sophisticated tools to identify natural resources in the vicinity of highway projects. It has gauged the cumulative long-term environmental impacts of building and road improvements and mitigated these effects in one grand plan -- with input from all concerned.

This kind of extensive pre-planning is far superior to the current and historical method, particularly in the case of major highways covering many miles and involving the jurisdiction of multiple state, county and city governments. For years, each local agency has mediated its section of the right-of-way, piecemeal fashion, with no overarching

design or schedule -- often resulting in a waste of time and money.

A planning model designed by ICE for Merced County's regional road development plan was so successful that the same concept is now being used by state agencies. CalTrans is employing the center's techniques to plan its Highway 99 Corridor improvements along a 280-mile stretch of roadway, from the southern edge of Sacramento County to the junction with Highway 5 in Kern County, using engineers' highway drawings and GIS (Geographic Information System) mapping.

Another ICE study in use for Highway 99-corridor improvements planning uses GIS mapping with one-meter precision, allowing planners to distinguish detail in riparian areas.

## Invasive Species

"Non-native," "invasive" and "alien" are all pejorative -- but very descriptive -- terms for plants and animals that did not evolve in a particular ecosystem. The economic impact of invasive species in the U.S. is estimated to be from \$100 billion to more than \$150 billion per year. Terrestrial and aquatic aliens rank with habitat destruction as the number-one cause of species endangerment and extinction.

And, according to **Susan Williams**, director of the Bodega Marine Laboratory and professor in the Department of Environmental Science and Policy, marine invasive species account for habitat destruction on a scale with fisheries over-harvesting.

The sources of non-native species range from European colonizers who purposely imported garden exotica, to the microorganisms that continue to stowaway in bilges and ballast water on ships. Examples of troublesome opportunistic migrants include the West Nile virus, livestock foot-and-mouth disease and the Mediterranean fruit fly.

In the past decade, California has been forced to mount a serious



*Alison Briden, senior majoring in environmental toxicology, and Levi Lewis, staff researcher in the Department of Environmental Science and Policy and the Bodega Marine Laboratory, conduct research at the Stege Marsh in San Francisco Bay to detect physiological responses to contaminants in marine life.*

defense against the glassy-winged sharpshooter, a flying insect that can transmit Pierce's disease to grapevines. California's wine, table and raisin grape industries have suffered millions of dollars in damage from this invasive pest.

The same bacterium transmitted by the sharpshooter causes destructive maladies to other agricultural crops. Professor **Bruce Kirkpatrick**, Department of Plant Pathology; associate Professor **Andrew Walker**, Department of Viticulture and Enology; and Extension specialist **Frank Zalom**, Department of Entomology, are among researchers in the college working to control Pierce's disease and the sharpshooter.

Zalom also is working with Extension specialist **Louise Ferguson** of the Department of Pomology to eliminate the olive fruit fly, which threatens devastating damage to California's olive producers.

To continue this fight against emerging and invasive pests, the college recently established the country's first level-three agricultural contained-research facility. The 24,000-square-foot structure provides scientists with a highly secure, biologically contained environment -- complete with hermetically sealed

greenhouse areas and pathogen-free filtered air, where biological research on exotic plant pests and disease organisms can be conducted safely.

### **Aquaculture and Fisheries**

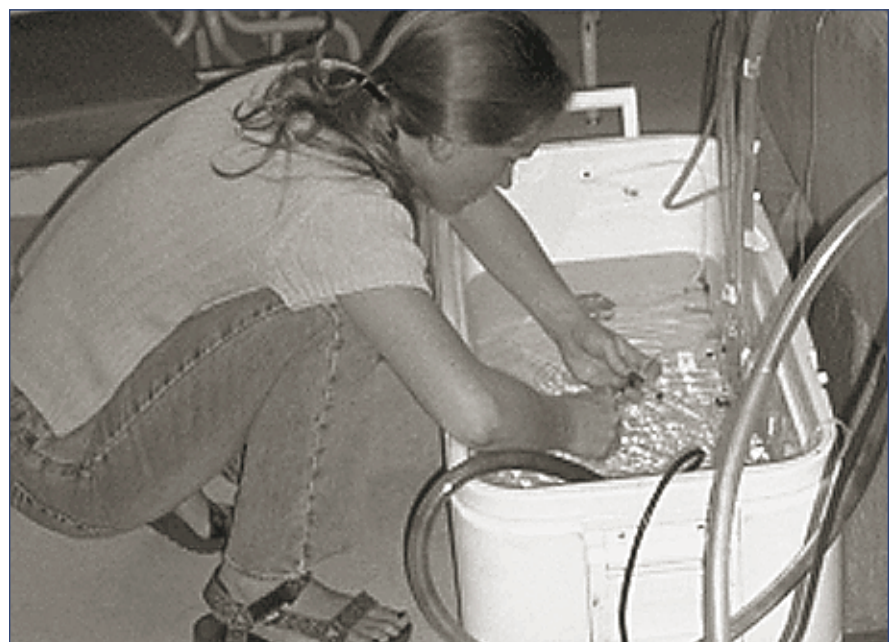
The Bodega Marine Laboratory (BML) in coastal Sonoma County is a campus-wide organized research unit that serves the aquatic research needs of many CA&ES faculty. The

laboratory's location and housing arrangements provide unique opportunities for field studies in marine ecology, coastal/near-shore oceanography and environmental toxicology.

Susan Williams and Professor **Gary Cherr**, a reproductive biologist in the Department of Environmental Toxicology, are among the 30 researchers from UC Davis and UC Santa Barbara involved in the Pacific Estuarine Ecosystem Indicator Research Consortium (PEEIR). This western regional study group, partnered by the Environmental Protection Agency and CALFED's Bay-Delta program, is charged with assessing environmental damage to vital estuaries such as the San Francisco Bay and developing systems for mitigation and restoration.

PEEIR director **Susan Anderson** is a research biologist in the Department of Environmental Toxicology, and **Steven Morgan**, associate professor in the Department of Environmental Science and Policy, leads PEEIR's ecosystem proposal efforts.

The Bodega lab also is the site of a major research and restoration initiative involving threatened and endangered coastal species of California and Pacific Northwest salmon,



*Christine Meyer, Ph.D. student in Professor Joe Cech's laboratory, measures the oxygen consumption rate of swordtail fish from Belize.*

steelhead and sturgeon. For eight years, the laboratory has developed captive breeding stock of winter-run Chinook salmon as a 'band-aid' for this endemic salmon species until its natural environment is sufficiently restored to support them.

Researchers are concerned about maximizing genetic diversity within the species while in captivity, mimicking natural selection. To date, scientists have successfully bred the Chinook through several generations -- an achievement requiring the use of vaccinations, ultrasound (checking for reproductivity stages) and the development of special feed.

Much of BML's salmon research is carried out in cooperation with

**Joseph Cech's** laboratory, professor in the Department of Wildlife, Fish and Conservation Biology. Cech is director of the Center for Aquatic Biology and Aquaculture (CABA).

Cech and his (recently graduated) Ph.D. student, **Shana Katzman**, made an important discovery regarding the migration impulses of the Coho salmon. They showed that the mechanism behind the onset of coho juvenile migration -- from fresh water to salt water -- is a hormonally triggered decrease in swimming ability. Thyroid hormone secretions "remodel" its muscles for swimming bursts, rather than for the continuous swimming needed to keep position in a stream. Thus, the fish do not hold position in their stream habitat, drifting downstream (migrating) to the ocean. Their results were published in the *Journal of Experimental Biology*.

Thanks largely to the restoration ecology work of Professor **Peter Moyle**, Department of Wildlife, Fish and Conservation Biology, spawning salmon have returned to Putah Creek -- and even to the campus. His laboratory's monitoring devices detected 60 to 70 salmon in the creek last year.

In addition, Moyle and geology professor **Jeffrey Mount** are studying the importance of restoring and expanding flood-plain habitats. They found that juvenile salmon living in

the flood control Yolo Bypass area grow at approximately twice the rate of juveniles in a riverine environment. According to Moyle, this research potentially has important applications, both for agricultural uses of flood plains and for mitigating the effects of global warming by increasing our ability to manage additional water flows resulting from increased rainfall amounts.

Moyle's graduate student, **Richard Bush**, with support from JMIE, is studying small coastal estuaries. His work indicates that they are surprisingly important as rearing habitat for Coho salmon and steelhead trout.

### The Tahoe Area

The beauty of Lake Tahoe is justly famous, but the lake and its entire ecosystem is threatened by both natural and human developments. For more than 40 years, Professor **Charles Goldman** of the Department of Environmental Science and Policy and his campus colleagues in the Tahoe Research Group (TRG) have worked to sustain and improve the environment of the Tahoe Basin.

Part of JMIE, the Tahoe Research Group has studied the complex relationship between the lake and its surroundings in hopes of improving water and air quality, as well as the health of neighboring forests.

Associate research ecologist **John Reuter**, Department of Environmental Science and Policy, is TRG's associate director and California/Nevada science director for the Lake Tahoe Total Maximum Daily Load Program. This program, an ambitious \$6 million effort to determine the allowable pollutant load for Lake Tahoe, will be the cornerstone for future restoration efforts.

The effective linkage of scientific research and monitoring, environmental management and public policy is central to the mission of the university's Tahoe Environmental Research Center.

Staff research scientist **Alan Heyvaert** of the Tahoe Research Group has reconstructed the history of Lake

Tahoe back through the Comstock mining period in the 1860s. By examining cores of the lake's sediments, he has shown that the lake recovered nicely from the high erosion caused by the almost-complete removal of the forest to shore up the mines. This is the best evidence that the lake would be able to recover again if nutrient input can be reduced in the next few years.

The Tahoe Center for Environmental Sciences, a research and education facility that will house the Tahoe Research Group, will be built on the campus of Sierra Nevada College in Incline Village, Nevada, beginning in 2005. The \$24 million project is funded jointly by Sierra Nevada College and UC Davis, with support from Nevada's Desert Research Institute.

Professor **Michael Barbour**, Department of Environmental Horticulture, is studying the 30 or more existing remnant old-growth mixed conifers in the Tahoe Basin, hoping to restore pre-contact forest. His research is aimed at establishing what the basin would have been like before two-thirds of the hillsides were stripped of their trees during the mining craze. Research results will help agencies construct vegetation targets for restoration activities that include prescribed fires and thinning.

Barbour's studies indicate that only half of the basin's forest was old-growth prior to contact, whereas the Tahoe Regional Planning Agency estimates that total at closer to 70 percent.

"In addition to the many trees felled by humans," Barbour says, "old-growth forests are destroyed by fires and mud slides, avalanches and disease."

### Climate Change

From concerns about warnings and signs of global warming, to this year's deep freeze that brought record cold to the Northeast, global climate change promises to be a hot topic for the foreseeable future.

Professor **Susan Ustin**, LAWR, is director of WESTGEC, the

western regional center of the National Institute for Global Environmental Change. WESTGEC's primary research focus is on regional ecosystem response to actual or predicted climate change and the socio-economic implication of that response. Another goal is to address the exchange of atmospheric carbons and provide local and regional data on the flux of greenhouse gases within forest ecosystems.

**Kyaw Tha Paw U**, biometeorologist and LAWR professor, is engaged in long-meter research in the mountains of Southwest Washington. He

is working to determine the carbon exchange between the atmosphere and a 500-year-old, 65-mile-high forest at the Wind River Canopy Crane Research Facility. Collaborating with a group measuring biogenic hydrocarbon emissions from the forest canopy, his research group is measuring carbon dioxide fluxes.

Recent data indicates that this old-growth forest is surprisingly active and annually is sequestering approximately two tons of carbon per hectare, serving as a carbon sink on a par with younger forests.

## Conclusion

Environmental scientists answer many tough ecological questions -- and raise many more. Consequently, the college often is embroiled in controversial issues surrounding public policy affecting the environment.

In the words of **Randal Southard**, CA&ES associate dean for the environment, "If this college is not involved in the crucial environmental debates of our time, we're not doing our job."

*Dorothy Ross is an editor in the Department of Environmental Horticulture.*



Cooperative Extension livestock waste specialist **Deanne Meyer**, Department of Animal Science, is coordinator of the Environmental Stewardship module of the California Dairy Quality Assurance Program. Working with UCCE dairy advisors and many members of the California Dairy Quality Assurance program, she helps dairy

producers comply with frequent changes to county, state and federal regulatory standards related to water quality by implementing improved environmental practices for manure management.

While Meyer is working with California's dairies on the latest water regulations, air quality CE specialist **Frank Mitloehner**, Department of Animal Science, is

responsible for helping them deal with newly released air regulations.

California is the number one dairy state in the country, and the Central Valley is the nation's top milk producing region. Proper management of dairy animal facilities is vital to the state's economy, as well as to the environment.

## RMI Director Named



The day **Clare Hasler** left Chicago, it was 21 degrees below zero (figuring in the wind-chill factor). "I'm thrilled to be in California,"

she said in February, noting our bright blue skies and near-60-degree temperature.

Hasler is the founding executive director of the Robert Mondavi Institute for Wine and Food Science, scheduled to break ground in 2005. She will provide the leadership and vision necessary to establish the RMI as the world's leading institute for programs and research in areas of food and wine sciences and will guide fund-raising activities for the institute.

A nutritionist, Hasler was director of the Functional Foods for Health Program at the University of Illinois, Chicago and Urbana-Champaign campuses. She is a leading authority on functional foods -- foods that provide specific health benefits, such as lowering the risk of heart disease or cancer, in addition to meeting basic nutritional needs. Her current research focuses on the role of soy in preventing chronic disease.

"Clare brings a rare combination of strengths, including scholarly expertise in the area of foods and health," said Dean Neal Van Alfen. "She has a remarkable ability to bridge the worlds of academia, industry and the public."

Hasler received her B.S. from Michigan State University; M.S. from Pennsylvania State University; a dual doctoral degree in environmental toxicology and human nutrition from Michigan State; and an M.B.A. from the University of Illinois, Urbana-Champaign. In 1998, she was recognized by *Self* magazine as one of the "Top 25 Food Influentials."

"This is a fantastic opportunity for me," Hasler said. "UC Davis is a world-class research institution, and the opportunity to help build the RMI into the global leader in wine and food science is a dream come true."

## New Toxicology Chair



**Ron Tjeerdema** (Ph.D., '87, Pharmacology and Toxicology) came to UC Davis in 1983 to work on a doctorate with Professor

Donald Crosby. In 1997, he received the Donald G. Crosby Distinguished Alumnus Award from the Department of Toxicology. He joined the UC Davis faculty in 1999 as a professor in the department, assuming the role of chair in 2003.

Tjeerdema grew up in Buena Park, Calif., and attended Humboldt State University where he received degrees in wildlife management and natural resource planning and interpretation. He earned an M.A. in pharmacology in 1983 from UC Santa Barbara.

Tjeerdema's research is in the area of aquatic toxicology, focused on the fate and adverse effects of agricultural pesticides, petroleum hydrocarbons and natural marine toxins in the environment.

Tjeerdema believes his department is the oldest of its type in the United States.

"Typically, national and international meetings in environmental toxicology are influenced heavily by UC Davis researchers and alumni, which is quite gratifying," he said. "Our prominence also is reflected in the large and very successful research programs housed in our department, a reflection of our outstanding faculty."

"My greatest challenge as department chair is to maintain prominence during this fiscally constrained time," Tjeerdema says.

Primary goals are to attract gift support to enhance current undergraduate and graduate programs and to encourage faculty to contribute to current instructional needs in environmental chemistry, as well as new-course offerings in aquatic and veterinary toxicology.

## Picnic Day 2004

Picnic Day is a great way for departments to connect with alumni, prospective students and the community. The campus's annual open house on Saturday, April 17, was a huge success -- offering a full menu of exhibits, competitions, shows, demonstrations, workshops, discussions, music, food and more. Picnic Day entertainment was bigger and better than ever before -- with more venues and extended hours. Ninety years! Ninety exhibits!

The one-and-a-half mile Picnic Day parade kicked off a day set aside to celebrate the achievements and rich diversity of UC Davis and the Davis community. Spectators delighted in watching groups march, walk, skate, skip and ride in or on bicycles, animals and floats.

Visitors enjoyed hands-on exhibits across the campus and talked with knowledgeable department representatives about a wide range of programs. The Student Organization Faire, highlighting ASUCD units, sports clubs and student groups, was held on the Quad. Across the street, the Multi-Cultural Childrens' Faire, located in and around Hart Hall, exposed children to diversity through crafts and performances.

A few of the many popular "animal" events included cow milking, the Frisbee dog contest, flyball, goat milking, Jack Russell Terrier racing, the Little International Livestock Show, sheepdog trials, UC Davis Equestrian Team demonstrations and the UC Davis Vet Med Doxie Derby.

This was the campus's 90th Picnic Day celebration. What an event!



Picnic Day, 1908



## Hog Barn on the Move...



Photo courtesy Debbie Aldridge/UC Davis

The campus's historic Hog Barn moved in January from its foundation south of Crocker Lab to a new home -- with a new purpose. It now sits on a foundation just north of Bainer Hall in the Silo district, near other similarly styled buildings.

A quaint reminder of the campus's University Farm days, the Hog Barn was moved in six pieces over two days. It makes room for a new four-story, 65,000-square-foot mathematical sciences building. Once the 4,500 square-foot barn is renovated, it will house Staff Development and Professional Services.

Teaching and research activities moved from the Hog Barn in November 2000 to a new \$2.4 million facility near the campus airport. Until that time, the Craftsman shingle-style structure was believed to be the oldest building on campus still used for its original purpose.

"The weekend move of the Hog Barn to its new site was attended by

individuals from the facility's past -- the Department of Animal Science -- and the facility's future -- Staff Development and Professional Services," said animal science professor and chair **Gary Anderson**. "We are pleased that this part of campus history has been preserved."

**Sally Lischeske** ('79, Human Development) was present for the big move. She writes, "Thank you to the animal science department and to **Fred Conte** for the photo album of the Hog Barn move! (<http://animal.science.ucdavis.edu/events/News/default.htm>).

"I was a student at UCD in the 70s and am a staff member now, so the Hog Barn is a bit sentimental to me. What great photos! And what a good idea to move the barn and put it to use...rather than demolish it. It's gratifying to know that, even in tight budget times, the university maintains a large perspective, including honoring and preserving its history."

## 2004 Commencement Sunday, June 20

### 9 A.M. CEREMONY

Agricultural Management and Rangeland Resources  
Agricultural Science and Management  
Agricultural Systems and Environment  
Animal Biology  
Animal Science  
Animal Science and Management  
Atmospheric Sciences  
Avian Sciences  
Biotechnology  
Clinical Nutrition  
Crop Science and Management  
Design  
Entomology  
Environmental Biology and Management  
Environmental Horticulture and Urban Forestry  
Environmental Policy Analysis and Planning  
Environmental and Resource Sciences  
Environmental Toxicology  
Fermentation Science  
Fiber and Polymer Science  
Food Biochemistry  
Food Science  
Hydrology  
Individual  
Landscape Architecture  
Nutrition Science  
Plant Biology  
Soil and Water Science  
Textiles and Clothing  
Viticulture and Enology  
Wildlife, Fish and Conservation Biology

### 2 P.M. CEREMONY

Community and Regional Development  
Human Development  
International Agricultural Development  
Managerial Economics

Complete information is available at <http://www.aes.ucdavis.edu/Events/Commencement/Default.htm>.

## Private Funding Key to Environmental Projects

By Christine Schmidt

In times of budget uncertainty, we at UC Davis do the same financial planning as a family does with its household budget; we look at what is most important and focus our precious investments there.

The environmental sciences are very important for many reasons. Some are purely selfish: we want clean air, water and healthful food. We also like to have open spaces for hiking, fish in rivers and streams and migratory birds to watch.

Other reasons are less personal but no less important: we need a healthy and sustainable economy. Inputs such as clean water supplies can have a drastic impact on the manufacturing industry, and the availability of water has a direct impact on our agricultural industry. Both sectors provide goods that we depend on and create jobs in other areas of our economy.

UC Davis is leading the way toward realizing all of these needs. As we continue to face budget uncertainties, however, we will continue to look to our alumni and friends to help us keep our programs strong. Below are three projects where your help is needed.

### Endowed Chair in Cold-Water Fish

UC Davis is the place practitioners come when needing guidance for cold-water fish conservation and restoration projects. The work of professors **Peter Moyle** and **Joseph Cech** -- and others -- has helped resource managers and policymakers in California and beyond make sound decisions about how water and fisheries are managed.

The college is raising \$1 million to establish an endowed chair in cold-water fish. This endowment will help us protect the world-class stature of this research area by ensuring that we retain our best faculty, hire only the finest researchers in the future and provide valuable funds to the researcher honored with the endowment title.

### Watershed Sciences Building

A new building being planned will promote collaboration between scientists and students from diverse backgrounds by co-locating them in a single facility.

The Watershed Science building will house the Center for Integrated Watershed Science and Management, established in 1998. Under the leadership of geology professor **Jeffrey Mount**, the center will provide an array of new laboratories and offices for students, post-doctoral scholars and visiting scientists. Students will work in adjoining laboratories and offices, sharing information and techniques, as well as training each other in their respective fields.

While most of the construction funds have been acquired, we need contributions to equip the building and open the doors. Naming opportunities are available.

### Donald and Sylvia McLaughlin Natural Reserve

We are working to improve the accessibility of the Donald and Sylvia McLaughlin Natural Reserve to increase opportunities for students to experience environmental sciences outside the classroom.

The McLaughlin Reserve is a 6,800-acre site in the remote region between Clear Lake and the Berryessa Reservoir. It provides a secure site for long-term environmental research, education and public outreach, while enabling monitoring of environmental health and providing a baseline for ecosystem restoration. Contributions toward this reserve will help us improve the reserve's accessibility for students and researchers.

Contact Christine Schmidt if you would like to help with any of these projects or learn more about the environmental sciences at UC Davis.



Left to right, Oliver Ramsey, Rick Swantz and Christine Schmidt

## Welcome to Oliver Ramsey!

We have a new face in the CA&ES development office! Oliver Ramsey joins us from COPIA: The American Center for Wine, Food and the Arts. He will be a key asset to our Robert Mondavi Institute for Wine and Food Science fund-raising campaign.

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## Aggie Pride – Catch it!

By Richard Engel

I remember my first day at UC Davis as a new student. Being from a small, remote community and having missed summer advising due to work obligations, my first visit to campus was the day I moved into the dorms to prepare for the start of school.

There were no fears or hesitations about the years of college ahead. Throughout most of my life, I had been supported and positively influenced by mentors and family members who proudly displayed their Aggie Pride.

During that first afternoon orientation, our resident adviser was concise and clear when stating the behavioral expectations for all new residents. He wisely quoted legendary football coach Jim Sochor: “Never let your helmet touch the ground.” It took only days to understand what this meant.

As part of the UC Davis community, every student, staff and faculty member has an obligation to meet. Happily, I was infused with Aggie Pride that first week of school, and now, nearly 20 years later, I still reflect daily on the greatness of this institution and the role it plays in students’ lives.

Earlier this year, I had the opportunity to have dinner with Coach Sochor and discuss the true meaning of Aggie Pride. During our conversation, it was clear that the definition of Aggie Pride would never be found in the dictionary. Rather, it is something we find in individuals -- in their attitudes, experiences and contributions.

The coach and I talked about alums such as **Bob Munyon** who spends at least one night every fall welcoming new students and their families to UC Davis at the annual catfish feed and tri-tip barbecue. Along with fine food and useful information, Bob joined Dean **Neal Van Alfen** and other members of the North San



*Bob Munyon, right, serves his famous catfish at the annual CAAA North San Joaquin Valley Catfish Feed and Tri-Tip BBQ.*

Joaquin Valley Chapter of the Cal Aggie Alumni Association in sharing an ongoing passion for UC Davis. This experience was replicated throughout California last year with over 100 alumni volunteers hosting events in 13 different counties.

Another name that came up was **Dean DeCarli**, a spry athlete on the University Farm School Boxing Team in the late 1920s. Dean later became mayor of Stockton and a successful businessman. At the age of 95, he still makes time to have coffee every week with several friends, including Bob Munyon, to talk about past times, current issues and the future.

While discussing some of the historical changes in programs and student interests at UC Davis, **Orville Thompson’s** name surfaced. Dr. Thompson’s efforts helped form the behavioral sciences program on our campus, and his leadership helped expand and diversify the faculty and student body. Last fall, Orville was recognized for his lifetime commitment when Thompson Hall in the Segundo Housing Complex was dedicated. I am confident that Dr. Thompson will be a frequent visitor to the dorms.

Individuals bringing definition to the term ‘Aggie Pride’ now number

more than 140,000. One in every 300 Californians is a graduate of UC Davis, and we need every single one to help share the UC Davis story with others.

Our story begins with the world-renowned teaching, research and outreach contributions of our campus in the agricultural and environmental sciences and veterinary medicine. While the campus will continue to be the premier institution in these areas, UC Davis also has developed nationally recognized programs in medicine, law, business and athletics. UC Davis has become a leader in the performing arts, and its new School of Education is targeted to be a guiding academic force for the future.

Today, I counsel students to make sure they visit the campus as often as possible and sign up for summer advising as soon as possible. I advise them to be sure to catch a bit of Aggie Pride early and often! A little blue and gold in the veins will take us all a long way.

### Contact Information

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rrengel@ucdavis.edu



UC Davis' first McOmie Graduate Education Program Fellow is **Alfredo Koch**, a member of the Plant Biology Graduate Group.

The program, a joint effort between the College of Agriculture at California Polytechnic State University, San Luis Obispo, and the College of Agricultural and Environmental Sciences at UC Davis, aims to enhance student and faculty interactions on the two campuses.

Fellows complete their master's degrees at Cal Poly and their doctor-

ates at UC Davis, with thesis committees consisting of faculty members from both schools.

Koch, who began his doctoral work at Davis last fall in the Plant Biology Graduate Group, completed his master's in agriculture. He is now working with Professor Larry Williams, Department of Viticulture and Enology, on the effects of water stress, composting and compost tea on vineyard production and berry quality.

The Department of Nutrition recently established the Prophet-Zeman Undergraduate Award in Nutrition, honoring Fran Zeman and the late Joann Prophet. **Jorge Aguilar**, 2003 graduate, is the first recipient. The award was made possible through a \$5,000 donation contributed by 21 department faculty members.

Fran Zeman, who is now retired

and lives in Davis, was a dietetic adviser and research professor in the department for many years.

Joann Prophet died in 2003. She taught food service management courses as a lecturer for 20 years, linking students and campus dietetic programs to outside venues.

Professor Robert Rucker, vice chair of nutrition, explained that when Prophet died, many people in the department asked, "What can we do?" Because Prophet was so instrumental in the lives and success of students, the undergraduate award was established in her honor.

"Professor Judy Stern was instrumental in moving this effort along," Rucker said. "Many people contributed. Fran and Joann were involved with at least 1,000 students. Our internship program is recognized as one of the best in the country, and they helped to make that possible."



Erna and Orville Thompson recently established an endowment with the UC Davis Foundation to be used to support graduate students in the College of Agricultural and Environmental Sciences at UC Davis. The endowment payout will be divided equally for graduate student support in the Department of Plant Pathology and the Community Studies and Development Unit of the Department of Human and Community Development. The support may include recruitment expenses, assistantships, research projects and travel to professional meetings. The Thompsons donated \$250,000 to establish the fund.

Dean Neal Van Alfen, who has known the Thompsons since his days as a graduate student in plant pathology, said, "Erna's and Orville's generosity will have an everlasting impact on our graduate students, and we are honored to receive this gift."

The Agricultural Geographic Information Systems lab in the Department of Land, Air and Water Resources received an award at the 2003 California Water Policy Conference honoring "those who have advanced innovation, breakthrough technologies and/or new ways of thinking about water in California."

The award was presented to associate adjunct professor Minghua Zhang, lab director, and several students.

**Steve Arounsack**, graduate student, agroecology

**Dylan Beaudette**, undergraduate student, environmental and resource sciences, specialization in GIS and remote sensing

**Jennifer Campos**, graduate student, international agricultural development

**Nila Kreidich**, graduate student, international agricultural development and integrated pest management

**Alex Mandel**, undergraduate student, wildlife, fish and conservation biology

**Xuyang Zhang**, graduate student, agroecology

Congratulations to the 2003 recipients of the Milton D. and Mary M. Miller Plant Science award:

- Debra Boelk**, M.S. student, horticulture and agronomy
- Francine Dickey**, M.S. student, horticulture and agronomy
- Holly Johnson**, M.S. student, horticulture and agronomy
- Cayle Little**, M.S. student, horticulture and agronomy
- Rachel Long**, farm advisor, Yolo County
- Scott Oneto**, M.S. student, horticulture and agronomy
- Kristie Pellerin**, Ph.D. student, plant biology
- Bruce Roberts**, Ph.D. student, farm advisor, Kings County

For more information on this award program, contact Garda Johnson, academic program adviser in the Department of Agronomy and Range Science, [gjohnson@ucdavis.edu](mailto:gjohnson@ucdavis.edu).



**Cindy Batchelder**, molecular and integrative Ph.D. physiology student in the Department of Animal Science, received the first-

place award in Graduate Student Competition at the 2004 meeting of the International Embryo Transfer Society (IETS) in Portland.

Graduate students from around the world submitted approximately 50 research abstracts; six were selected for poster and oral presentations. Batchelder presented results of her Ph.D. thesis research on cloning in cattle.

In 2002, **Marcelo Bertonini**, then a molecular, cellular and integrative physiology Ph.D. student and now a postdoc in the department, received the first-place award at the society's meeting in Brazil.



**Walter Loscutoff**, Department of Agricultural and Resource Economics, and a team of students got involved in a team-building

community project that helps kids at the Sacramento YMCA. The effort was spearheaded by lecturer Bay Butler, who wanted students in his Fundamentals of Business Organization class to gain insight into their community by accomplishing project goals.

Loscutoff and his team created a Web site through which sports equipment can be donated and collected. Children from the Northeast and Central Branches of the Sacramento YMCA are benefiting from these donations.

Take a look at the class project Web site at [sports2kids.org](http://sports2kids.org).



Since 2001, Mervyn's California has donated \$5,000 to the Division of Textiles and Clothing (TXC) and another \$5,000 to the UC Davis Internship and Career Center to support student activities. The division has used the donations to sponsor conferences and provide scholarships to students working

on internships. In February, Mervyn's representatives came to campus to meet with the division's TXC Career Forum class. They discussed employment opportunities through Mervyn's Executive Training Program and presented Mervyn's 2003 gift.

Mervyn's actively recruits UC Davis graduates into its program. Recruits

are trained as business analysts and then promoted into buying, finance, marketing, personnel and other areas. TXC students have taken specialized courses in textile testing, retailing, clothing material science, international trade and the cultural study of style.

## Student Internships: Partnerships for Plant Genomics Education



As more schools are developing biotechnology-elective courses encouraging students to enter careers in genomics and biotechnology, the demand for additional training and lab experience is increasing.

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As a result, several National Science Foundation-funded plant genome projects on campus are collaborating to provide internship experiences for high school students.

Through this program, students develop marketable lab skills, learn to ask productive questions, design experiments and analyze results. Students gain exposure to the university community, make valuable personal contacts and explore the possibilities of a career in science.

The 2003 summer program was open to students entering their junior or senior year in high school. Eight students were selected to participate from 15 applications submitted from seven schools.

Prior to being paired with a mentor in a UC Davis laboratory, students attended a one-week orientation to brush up on lab skills, learn about biotechnology and genomics concepts and review safety procedures. For the next six weeks, students worked in their mentors' laboratories.

The internship concluded with a poster session. Students created scien-

tific posters reflective of their work over the summer and gave presentations to an assembled group of peers, mentors and parents.

According to education coordinator Barbara Soots, Department of Plant Pathology, the internship program benefits mentors as well as students. By articulating ideas to a lay audience, mentor scientists can improve their communication skills, as well as methods for teaching younger, inexperienced scientists.

Mentors and the labs involved in 2003 include:

- Chris Dardick**  
Pam Ronald Lab
- John Gish and DJ Kim**  
Doug Cook Lab
- Eduard Akhunov**  
Jan Dvorak Lab
- Bulak Arpat**  
Thea Wilkins Lab
- HunJu Lim**  
Doug Cook Lab
- Barney Ward and John Martin**  
David Gilchrist Lab
- Mike Covington**  
Stacey Harmer Lab

For information regarding the student internship program, contact Barbara Soots, [besoots@ucdavis.edu](mailto:besoots@ucdavis.edu).

CA&ES

IN MEMORIAM

### Daniel L. Shon

CA&ES Dean's Advisory Council  
1997-2002  
November 13, 2003

### Dale Kester

(M.S., '49, Horticulture;  
Ph.D., '51, Plant Physiology)  
Professor Emeritus  
Department of Pomology  
November 21, 2003

### Fredric W. Hill

Professor Emeritus  
Department of Nutrition  
November 29, 2003

### Clark Kerr

President  
University of California, 1958-67  
November 29, 2003

### Robert Allan Kepner

Professor Emeritus  
Department of Biological and  
Agricultural Engineering  
December 19, 2003

### Theodore Adams, Jr.

(B.S., '59, Range Science;  
M.S., '61, Ecology)  
Extension Wildlands  
Specialist Emeritus  
Department of  
Agronomy and Range Science  
January 9, 2004

### Dale Lott

Professor Emeritus and  
Founding Chair  
Department of Wildlife, Fish  
and Conservation Biology  
January 26, 2004

### Charley Soderquist

(M.S., '73; Ph.D. '78,  
Agricultural Chemistry)  
CA&ES Dean's Advisory Council  
1995-1998  
2002 CA&ES Award of  
Distinction Recipient  
March 2, 2004

**Protecting Fish for Future Generations**



For over 150 years, trout have hooked the fascination and imagination of California anglers. The ease with which rainbow trout could be cultured led to extensive movement of the fish throughout the Western U.S. and the world.

Unfortunately, hatchery-reared rainbow trout were planted into high mountain elevations of California for sport fishing, threatening native trout species. These native species evolved for thousands of years in the absence of predators, making them naïve and vulnerable to the introduced rainbow trout. The rainbow trout out-compete and interbreed with native species, severely altering their appearance, genetic composition and population numbers.

Why should people care about the loss of native trout, especially if rainbow trout are available?

Adjunct professor **Bernie May**, Department of Animal Science, explained that the loss of species is irreversible. Once eliminated, these unique fish never can be recovered.

“Potential unforeseen ecosystem consequences of displacing these fish might also encourage us to exercise caution in tinkering with nature,” May said.

May’s graduate student **Molly Stephens** points out that many native trout hold significant cultural

importance for Californians and Native Americans. Some species have important regional economic significance, sustaining popular native trout recreational fisheries that support local economies. Most native trout species are listed as threatened or endangered under the U.S. Endangered Species Act.

“Working to better understand the negative impacts of hybridization allows us to protect these fish for future generations to enjoy,” said May. “Their fate is in our hands!”

**Preserving Lake Tahoe**

An environmental research and education facility will be built on the Sierra Nevada College campus in Incline Village, Nev., through an unusual public/private-institution partnership in two states supported by federal, state, private and foundation funding. The new facility will be an international leader for science and teaching on the preservation of alpine lakes and their watersheds.

“This is a terrific outcome for the Tahoe Basin and all of us who love it,” said Professor **Charles Goldman**, Department of Environmental Science and Policy.

The new building will house offices and laboratories for the Tahoe Research Group and the Desert Research Institute, exhibits and educational programs, offices, labs and classrooms for Sierra Nevada College students, and a 300-seat conference room. Construction is expected to be begun in 2005.

**On Track**

Extension range specialist **Melvin George**, Department of Agronomy and Range Science, is using satellite technology to track cows at Sierra Foothill Research and Extension Center -- 5,721 acres of northern Sierra foothill oak woodland and annual grass rangeland. He is interested in how to reduce the impact of beef cows on the environment.

George and researchers from Oregon State University, Montana State University and USDA Agricul-

tural Research Service are studying cattle’s grazing patterns using a global positioning collar with an antenna on top. It’s the same technology that tracks troops in Iraq, he explained.

The GPS tracking system provides information about where the cattle graze and rest. It also tracks air temperature where the cow is and vertical and horizontal head movements. For six consecutive days, they are monitored every 24 hours, recorded every five minutes.

“We’re learning about herd grazing preferences,” explained George. “We’re also able to tell if water sources are being overused or damaged.”

George’s project is featured in a news clip at <http://agronomy.ucdavis.edu/calrng/rangel.htm>. Click on “Spacecow.”

**How Old is Old?**

Researchers have discovered that transplanting young ovaries into old mice extends the aging animals’ lifespan by up to 60 percent.

Professor **James Carey**, Department of Entomology, explains that this translates to an additional 18 years added to a 50-year-old woman’s life.

Building on earlier studies that analyzed aging in fruit flies and nematodes, Carey and colleagues in animal science and statistics conducted experiments expressly designed to assess the role of reproductive organs in lengthening the life of a mammal. These results help scientists understand the aging process by providing the first experimental evidence of the direct impact the reproductive system has on how mammals grow old.

Carey will work with fellow researchers to determine the effect of transplanting young ovaries into middle-age or older mice whose own ovaries were not removed but were allowed to age along with the animals.

Carey is program director, Biodemographic Determinants of Life Span at the Center for the Economics and Demography of Aging, UC Berkeley. His findings were published in the journal *Aging Cell*.

### **Bullying and Beverages: Teenage Studies**

Cooperative Extension specialist **Stephen Russell**, Department of Human and Community Development, led a study of the effects of bullying on teenagers who are harassed in school because they are gay or perceived to be gay.

Among other things, the study found that harassed students were three times as likely as other students to miss school and more than twice as prone to depression and suicide.

“This is the first time we’ve had information about this kind of harassment and its link to negative health consequences for teenagers,” said Russell.

The 4-H Center for Youth Development, directed by Russell, also released a study on the health and well-being of rural youth in California, a first-of-its-kind report, according to the California State Rural Health Association.

According to researchers, rural youth are nearly four times as likely to smoke cigarettes frequently and more likely to drink alcoholic beverages and ride in a car with a driver who has been drinking than their urban counterparts.

For more information, visit the center’s Web site at <http://fourhcyd.ucdavis.edu>.

### **To Bee or not to Bee**

Professor **Robert Page**, chair of the Department of Entomology, and colleagues were able to determine the genic mechanism of sex determination in honeybees. The research was reported in and featured on the cover of the journal *Cell*.

According to Page, the honeybee was the first animal for which a sex determination mechanism was hypothesized. In 1845, it was hypothesized that the males have no fathers -- that they arise from unfertilized eggs. [Editor’s note: This occurred 50 years before the discovery of chromosomes.] The hypothesis was true; however, it took another 153 years to figure out how it works.

The sex determination system of honeybees was the evolutionary invention that enabled the evolution of complex sociality that we see in ants, bees and wasps. It was a major evolutionary event with many subsequent effects.

In 1989, Page stated in a magazine interview that his primary objective for the next 10 years would be to determine the genic mechanism of sex in honeybees. It took 14!

### **Birds of a Feather**



Professor **John Eadie** of the Department of Wildlife, Fish and Conservation Biology and colleagues discovered that our wetlands yield far less food for birds than biologists assumed. That could have important implications for managing wetlands to support waterfowl populations.

“California has lost over 90 percent of its natural wetlands,” Eadie said, “more than any other state. This means that many birds spend the winter on flooded agricultural lands or on duck club properties.”

“We may be able to get more food from existing habitat by managing it differently,” Eadie said. Management

strategies, such as the use of irrigation or cultivation, might have a big impact on yield.

California provides winter homes for one in five of North America’s waterfowl, approximately 2-3 million birds. Most flock to the Central Valley, making UC Davis an ideal location for studying them.

### **The Cows are in Chambers**

**Frank Mitloehner**, Cooperative Extension air quality specialist in the Department of Animal Science, and colleagues are working to evaluate emissions and determine whether current emission estimates are acceptable or need to be revised. It isn’t an easy task.

Atmospheric measurements on a commercial dairy farm often are affected or even confounded by factors that the researcher cannot control. For example, neighboring crop operations or dairies, or even freeway traffic emissions, potentially confound the data from measurements on the dairy farm. Additionally, sudden changes in wind speed and direction affect measurements and accuracy of emission data.

Mitloehner is using a controlled research facility recently constructed by the Department of Animal Science that consists of environmental chambers. The research is funded by the Environmental Protection Agency (EPA).

Results will guide EPA, the California Air Resources Board and regional districts on whether cows and their waste are indeed major volatile organic compounds emission sources, as suggested by the current emission factor. (Current estimates are based on a 1938 methane chamber study.)

Co-researchers are Professor **Robert Flocchini**, Department of Land, Air and Water Resources and director of the Crocker Nuclear Lab, and dairy Extension specialist **Peter Robinson** and professors **James Fadel** and **Edward DePeters** of the Department of Animal Science.



## Collections and the California Economy

By Sheryl Soucy-Lubell

In today's rapidly changing world, biological collections represent tangible evidence of the world's present biodiversity and environment, past diversity -- and the change over time.

The Bohart Museum of Entomology and the Museum of Wildlife and Fisheries Biology are invaluable resources to the university and the community as storehouses for the biodiversity of Northern California and the world.

Although primarily used as tools for basic research in ecology, evolution and systematics, the collections are also of crucial importance for education, applied biology, genomics and natural resource conservation. In recent years, the collections have begun to play an important economic role for California industry, as well as for state and federal agencies.

Both museums provide important services to private industry in California. Both are involved in medically oriented identification services,

such as in the monitoring of Lyme's Disease, rabies, and the identification of animal or insect bites.

Museum scientists continually monitor the fauna at state parks to help state and federal agencies assess appropriate levels of use on public lands. Also, the museums provide training of state employees and health care professionals in the biology and identification of economically and medically important arthropods and vertebrates.

**The Bohart Museum of Entomology** is the second largest insect collection west of the Mississippi River, with more than 7 million specimens. Established in 1946, it is growing at the rate of nearly 150,000 specimens each year. It is home to the California Insect Survey and a resource for taxonomic, genomic and biodiversity studies worldwide.

The museum has been integral in a survey of the insect fauna of two invasive weed species: Scotch broom and Yellow Star Thistle. As a result,

scientists better understand the current ecology of the weeds, including the insects that pollinate them and spread seeds, as well as the insects that act as biological control agents by feeding on various parts of the plants. It means scientists have a better understanding of how to control the spread of these weeds.

**The Museum of Wildlife and Fisheries Biology**, established in 1972, has a collection of nearly 5,000 fish, 8,000 birds and 5,000 mammals. It houses an inventory of 35mm slides and a modest text and reprint library on subjects related to vertebrate ecology and taxonomy.

Museum scientists assist in surveys to help the California Department of Health Services track the spread of West Nile Virus. By surveying the number and densities of birds that may carry the virus and by training veterinarians to identify such birds, the museum plays a critical role in tracking anticipated outbreaks of the disease.

Scientists assist in identifying and banding birds, looking for signs of infection in birds across California, and assist in research that will affect the health and genetics of bird species.

*Sheryl Soucy-Lubell is senior museum scientist at the Bohart Museum of Entomology.*

### Contact Information

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and Fisheries Biology  
aengilisjr@ucdavis.edu

#### Web Sites

<http://bohart.ucdavis.edu/>  
<http://wfc.ucdavis.edu/www/museum/museum.html>



Entomology Ph.D. student **Deanna Jackson** uses a "beating sheet" to sample insects in the UC Davis Arboretum.



**Mark Schwartz**, professor in the Department of Environmental Science and Policy, is one of seven 2003 Chancellor's Fellows honored

at a reception at the chancellor's residence. Fellows receive \$25,000 each to put toward their research, teaching and service activities. Recipients can use the title "Chancellor's Fellow" for five years.

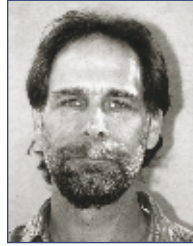
Schwartz, a plant conservation biologist, came to UC Davis in 1994. In 1999, he received the Most Valuable Professor Award from the ecology graduate students group. His research relates to rarity and decline in plant populations. Considered a leading researcher in the demography of endangered trees, he has studied effects of fire, climate change and diversity on invasibility -- with the aim to develop ecosystem management schemes that protect and enhance habitats for threatened plants.

The Chancellor's Fellows award program was started in 2000. **Scott Rozelle**, professor in the Department of Agricultural and Resource Economics, and **Andrew Waterhouse**, professor and vice chair in the Department of Viticulture and Enology, were fellows that first year.

**Michael McCoy**, co-director of the Information Center for the Environment in the Department of Environmental Science and Policy, was elected president of the California Planning Roundtable.

The organization promotes creativity and excellence in planning by providing leadership in addressing important planning issues in California. The Roundtable advises the Legislature, governor, city and county planning officials and members of the profession on matters of planning policy and practice.

**Miguel Marino**, professor in the Department of Land, Air and Water Resources, was appointed by the chair of the National Research Council to serve on the U.S. National Committee of the International Union of Geodesy and Geophysics. Committee members foster U.S. participation in international science and fortify communication linkages among U.S. and international scientific communities.



**Douglas A. Kelt**, associate professor in the Department of Wildlife, Fish and Conservation Biology, was elected to the board of directors of the American Society of Mammalogists, the world's leading organization for the study of mammals. Coming to UC Davis in 1995, he specializes in the study of small-mammal communities in habitats from rain forests to deserts around the world. He currently is pursuing research in California and Chile. Kelt is editor for reviews for the *Journal of Mammalogy*.



**Alison Berry**, professor in the Department of Environmental Horticulture, was named director of the UC Davis Road Ecology Center. The center brings together researchers from the John Muir Institute of the Environment and the Institute of Transportation Studies to assess the impact of roads and transportation systems on natural landscapes and human communities.

The center plans to create analytical methods, professional practices and institutional processes to support sustainable transportation systems and to disseminate information broadly to professional communities, students, environmental scientists, agencies and public interest groups.

Five Department of Agricultural and Resource Economics faculty members were included in 2003 *Who's Who in Economics, Fourth Edition*. Professors **Julian Alston**, **Colin Carter**, **Catherine Morrison Paul**, **Richard Sexton** and **J. Edward Taylor** were selected for inclusion based on the frequency with which their works were cited or referenced in scholarly publications.

Using citation counts over an 11-year period (1990-2000), the *Fourth Edition* reflects prominent economists worldwide who are cited most frequently by their colleagues.

**Joseph Cech**, professor in the Department of Wildlife, Fish and Conservation Biology and director of the Center for Aquatic Biology and Aquaculture, was one of two Western Region USDA Food and Agriculture Sciences Excellence in Teaching Award recipients.

The award honors a select group of college and university teachers who have excelled at teaching. It focuses national attention on the important role of teaching in the growth and progress of our nation's food and agricultural system.

Cech, co-author of the world's most extensively used ichthyology textbook, has taught courses at UC Davis on fish biology and physiology for nearly three decades. He received the UC Davis Prize for Undergraduate Teaching and Scholarly Achievement in 2001.

**Kyaw Tha Paw U**, vice-chair of the atmospheric sciences program, Department of Land, Air and Water Resources, is part of a team of scientists receiving the 2004 World Meteorological Organization's Norbert-Gerbiert Mumm Award.

The award is presented annually to the author(s) of a "scientific paper on the influence of meteorology in a particular field of the physical, natural or human sciences, or on the influence of one of these sciences on meteorology." The award will be formally presented in June 2004 at a ceremony in Geneva.

Paw U and his myriad co-authors' article, "Environmental controls over carbon dioxide and water vapor exchange of terrestrial vegetation," appeared in *Agricultural and Forest Meteorology*.

At the 21st anniversary meeting of the International Association for Genetics in Aquaculture (IAGA) held in Chile, **Graham A.E. Gall**, professor emeritus in the Department of Animal Science, was recognized for his role as the organization's founding father and one of its most active members.

In 1985, while organizing an aquaculture symposium at UC Davis, Gall drafted a simple constitution for an organization with the sole purpose of ensuring the symposium would continue into the future. He dubbed the organization the International Association for Genetics in Aquaculture. Those in attendance (about 125) accepted the draft and IAGA was formed. Gall subsequently was elected secretary/treasurer, a position he held until 2000.



Associate professor **Susan Handy**, Department of Environmental Science and Policy, was appointed to the Institutes of

Medicine Committee on the Prevention of Obesity in Children and Youth. Her research focuses on the relationships between transportation and land use, particularly the impact of neighborhood design on decisions about travel, including the choice to walk. She currently is studying this issue in eight neighborhoods in Northern California.



**Don Durzan**, professor, Department of Environmental Horticulture, was awarded a 2003 NASA Innovation Award for inventions and other scientific and technical contributions that have helped

NASA achieve its aeronautical and space goals. He was a member of NASA's Scientific Working Group on the International Space Station.

Durzan is a U.S. State Department project coordinator for the Bureau of Nonproliferation, Office of Proliferation, Threat Reduction and the Science and Technology Center Ukraine. The project aims to develop technology and equipment for the control of environmental factors, influence on the population health, ecological safety and biological productivity of the Ukraine.

Durzan is co-directing a NATO Advanced Research Workshop in Yalta, Ukraine, in September.



**Richard Michelmore**, professor of genetics and internationally known genomics expert, Department of Vegetable

Crops, is founding director of the UC Davis Genome Center. New faculty being hired for the center will share research interests in plants, animals and microbes, with several involved in multiple groups of organisms.

Michelmore's research focuses on the molecular and classical genetics of disease resistance in plants, particularly lettuce, tomato and Arabidopsis, a plant commonly used as a research model. He and his students have developed computer software programs for analyzing genomic data, which are available online at no charge (<http://michelmorelab.ucdavis.edu/software/>).

Michelmore was elected a fellow of the American Association for the Advancement of Science in 2002.

"Richard is one of the world's top plant molecular biologists who has a broad understanding of the ever-increasing diversity and potential impact that research in genomics can have on society today," said Neal Van Alfen, dean of the College of Agricultural and Environmental Sciences.



The Olney Medal for outstanding achievement in textile chemistry was presented to professor emeritus **Howard L. Needles**,

Division of Textiles and Clothing, at the AATCC conference in Greenville, S.C. The medal recognizes his tremendous contributions and enthusiasm in the field of textile science. Needles delivered the Olney Medal Address titled "A Random Walk through Textile Chemistry."

Needles received his B.S. in chemistry from UC Riverside in 1959 and his Ph.D. from the University of Missouri, Columbia, in 1963. After working six years for the U.S. Department of Agriculture's Wool and Mohair Laboratory, he joined UC Davis as professor of textiles and materials science. He is the author of 117 publications and holds 10 U.S. patents.



Anthropologist **Stephen Brush**, professor and associate chair in the Department of Human and Community Development,

is the recipient of a Guggenheim Fellowship which provides fellows blocks of time in which they can work with as much creative freedom as possible. Fellows may spend grant funds in any manner they deem necessary to benefit their work. The average Guggenheim Fellowship grant in 2003 was \$35,747.

Brush's research concerns agricultural ecology and the conservation of crop genetic resources. He has done field work in Peru, Turkey and Mexico and served as a consultant to the World Bank, the Office of Technology Assessment, the United Nations Development Programme, the Food and Agricultural Organization of the UN and UNESCO.

**Chester “Chet” Locke** ('42, Irrigation) of Lockeford, Calif., a retired farmer, has been married for 58 years. He is a World War II officer of the U.S. Navy, earning the Navy Cross and Legion of Valor. Locke is a member of the San Joaquin County Agricultural Hall of Fame and the Lodi Community Hall of Fame. He has been a Rotarian for 53 years and served as a member of the San Joaquin Board of Education for 38 years and the Lodi Memorial Hospital Board for 20 years. He served as director of the UC Davis Cal Aggie Alumni Association.

**Roberto de Grassi** ('48, Animal Science) of Redwood Valley, Calif., retired from agricultural regulatory activities in 1988 after 33 years in the Mendocino County Department of Agriculture. He served as county agriculture commissioner and as director of animal control. He helped form the county's art association in the early 50s, which evolved into three regional branches comprised of 300 members.

As a former student of the California School of Fine Arts and the Ecole Nationale Supérieure Des Beaux-Arts in Paris, de Grassi is now pursuing a life-long interest in child portraiture. He instructs portraiture at a local art gallery, restores antique furniture and oil paintings, and mats and frames paintings and drawings.

Two daughters are UC Davis graduates: **Andrea DeGrassi** ('81, Agricultural Science and Management) of Petaluma, Marin County deputy agricultural commissioner, and **Ann Maria “Ria” DeGrassi** (B.S., '83, Agricultural Science and Management; M.S., '87, Animal Science) of Davis, agricultural issues and policy analyst for national affairs and research for the California Farm Bureau Federation.



**Richard E. Rominger** ('49, Plant Science) of Winters, Calif., a former U. S. deputy secretary of agriculture, was named to

the University of California Board of Regents by the UC Davis Cal Aggie Alumni Association. Rominger has served on several agricultural boards and committees, including the American Farmland Trust and the California Agriculture Executive Roundtable. He was director of the California Department of Food and Agriculture before assuming his federal post.

A Cal Aggie Alumni Association life member, Rominger has served on both the CAAA board of directors and the UC Davis Foundation.

Rominger believes that reconciling budget constraints with the increasing number of eligible students is the most important issue facing the Board of Regents. “The University of California is the greatest university system in the world because the people of California have invested the resources necessary to build it and take pride in maintaining the highest standards,” he said.

Appointments of alumni regents rotate among the 10 campuses of the UC system. Beginning in July, Rominger will serve as a non-voting “regent designate” for one year, followed by one year as a voting member.

**Mark Thomas Clevenger** ('51, Agronomy) of Grapeview, Wash., is a writer, corporate communications consultant and volunteer in watershed management and salmon stream enhancement. Following graduation, he served as an information technician in the U.S. Air Force and later earned a master's degree in journalism from University of Southern California.

Clevenger recently retired as a full-time marketing consultant, primarily in marine, fishery and ship-

building industries. He continues to write about ship and boat building, propulsion, fisheries and agricultural affairs.

**George Brown III** ('67, Agricultural Economics; '77, Agricultural Teaching Credential) of Los Osos, Calif., is emergency manager of San Luis Obispo County where he lives with his wife Patricia. He is responsible for responding to disasters, including forest fires and earthquakes. Brown is involved in the local Boy Scouts program and spends as much time outdoors as possible.



**Darrell Maxwell** (M.Ed., '70, Agricultural Education) of Pendleton, Ore., retired in 1985 as a county

Extension agent with Oregon State University. He served as staff chair of Umatilla County Extension Service. Maxwell worked as an agricultural consultant until 1988 and as a real estate agent until 1999.

**Kathleen Boze** ('72, International Agricultural Development) of Catheys Valley, Calif., is agricultural commissioner for Mariposa County. She is the county's first full-time agricultural commissioner/sealer of weights and measures. Boze received her M.S. in agricultural economics from the University of Hawaii where she interned at the East West Center.



**Charles Des Jardins** (M.S., '72, Ecology) of Carson City, Nev., retired in 1994. He is active in civic affairs and was appointed

in January to the Regional Transportation Commission and to the Carson Area Metropolitan Planning Association.

**David Witt** ('73, Applied Behavioral Science) of El Cajon, Calif., is assistant city manager and community development director for the City of La Mesa. He is responsible for planning, building, redevelopment and economic development functions. One of the "added bonuses" of his position, he writes, is responsibility for the city's Farmer Market, a 10-year-old event.

**Rick Anderson** ('74, Entomology) of Granbury, Texas, is quality assurance engineer, technical packaging, for Miller Brewing Co. in Ft. Worth. He has held a number of operation and quality-control positions over the last 30 years for Miller Brewing Co. and Del Monte Corporation. Anderson's wife Donna is office manager for their 9,000-acre Buzzard Hollow Ranch.



**Harris Brotman** (Ph.D., '74, Genetics), LaJolla, Calif., is an intellectual patent attorney with Procopio, Cory, Hargreaves and

Savitch LLP in San Diego. He leads expansion for the firm into patent practice in the basic sciences of biotechnology. Brotman says that he draws on his experience in genetics, scientific writing and public relations.

Brotman previously was assistant professor of genetics at Cornell University and a science reporter for *The New York Times Magazine* and *Chicago Tribune Magazine*. He received the 1988 Beth Fonda Award for his cover story in *Chicago Tribune Magazine*.

**James Wood** ('74, Soil and Water Science) of Riverside is a soil scientist with the George E. Brown, Jr. Salinity Laboratory of the USDA Agricultural Research Service in Riverside. He has been with USDA for 30 years. Wood is married with two children attending college.

**Judith Flohr** ('75, Physiology) of Mt. Crawford, Va., is professor in



the School of Kinesiology at James Madison University in Harrisonburg, Va. She received the 1999-2000 Distinguished

Teaching Award and was promoted to full professor in 2000.

Flohr was elected to the Board of Trustees for the Southeast Chapter of the American College of Sports Medicine. She received her Ph.D. in 1991 from the University of Tennessee, Knoxville.



**Barbara Urban-Gurry** ('77, Individual) of Rohnert Park, Calif., works as a medical sales representative with Glaxo-

Smith-Kline. She has three children, Christopher, Stephanie and Patrick.



**Thomas Booze** ('78, Environmental Toxicology) of Antelope, Calif., is a toxicologist with Cal/EPA's Department of Toxic Substances

Control in Sacramento. He assists in evaluating the safety of new school sites and existing school sites when there is an issue involving chemicals, such as buried waste discovered during construction of new classrooms.

Booze earned M.S. and Ph.D. degrees in toxicology from Kansas State University. He worked as a toxicologist with Chevron for seven years and with an environmental consulting firm in Sacramento for eight years.

**Stephen Buchman** (Ph.D., '78, Entomology) of Tucson, Ariz., recently published his second book, "The Pollinator Conservation Handbook." He helped launch the tri-national Forgotten Pollinators Campaign in the mid-1990s and, as



a part of that effort, published his first book, "The Forgotten Pollinators."

Buchman was associate producer of a one-

hour TBS pollination documentary titled, "Pollinators in Peril," which aired in spring 2000. The Forgotten Pollinators Campaign -- introduced in Canada, Mexico and the United States -- called international attention to the role pollination plays in putting food on our plates and maintaining healthy communities around the globe.

Buchman previously worked as a research entomologist for the USDA-ARS Carl Hayden Bee Research Center in Tucson, Ariz. After leaving government service, he founded The Bee Works, LLC, an environmental consulting company that conducts pollinator surveys on federal, state and private lands.



**Stuart Moran** ('78, Food Science) of Burlingame, Calif., is managing the United Nations Volunteer Program in Lao PDR

(Laos), part of the United Nations Development Program. He is based in the capital city of Vientiane, with regular monitoring missions to the provinces. Moran's office supports over 50 professionals from more than 20 countries who work on a wide range of projects, including governance, HIV/AIDS, opium poppy eradication, trafficking of women and children, and removal of unexploded ordnance (left from the Indochina War).

Moran previously was posted to a United Nations assignment in Bangladesh. Before that, he worked for eight years as Peace Corps staff, mostly in Washington, D.C., at Peace Corps headquarters. From 1987-89, he served as a Peace Corps volunteer in Papua, New Guinea.



**Donald Postel** ('79, Biochemistry) of San Mateo is quality engineer for Dade Behring Inc. in Cupertino, Calif. He recently received certification from the American Society for Quality (ASQ) as a quality auditor.



**Suzanne Morrison Vose** ('80, Design) of Roseville, Calif., is project manager for Pulte Homes in Lincoln. She manages the special projects department of Del Webb's Northern California Communities. She has been with the firm for five years.

Vose's latest major construction project is at Del Webb's Sun City Lincoln Hills, a two-building recreation center that includes an indoor pool, day spa, theatre-style presentation hall and classrooms. She and husband Mark, a UC Davis graduate, have two children, Ashley, 10, and Jackson, 8.

**Susan Taub Johnson** ('81, Agricultural and Managerial Economics) of Albany, Calif., is assistant business manager at Tehiyah Day School in El Cerrito. She is married with three children.

**Nilsa Bosque-Perez** (M.S., '81; Ph.D., '85, Entomology) of Moscow, Idaho, is an associate professor of entomology in the Department of Plant, Soil and Entomological Sciences at the University of Idaho.



**Susan Davitt Gould Tarpley** ('83, Animal Science) of Arnold, Calif., is an administrative assistant for the Arnold Lilac Park Homeowners Association. Tarpley

and her husband enjoy life in the mountains with snowy winters and cool summers. "Life here is slow and easy," she writes. "No traffic!"



**Danielle Teuber Onstot** (B.S., '85; M.S., '89, Physiology) of Camarillo, Calif., is a pediatrician with Coastal Pediatric Medical Group in Oxnard. She graduated from UC Irvine with a M.D. in 1993 and completed pediatric residency at UC Irvine in 1996. Onstot has traveled to Mexico and Romania with daughter Gianna to care for people who do not have access to medical care. They visited public and private orphanages in Romania, finding that some had no budget for food or heat.

"Helping the Romanian people has been incredibly rewarding," Onstot writes.



**Susan Priest Petty Brooks** ('86, Dietetics) of Kent, Wash., is clinical director of nutrition and food services with VA Puget

Sound Health Care System (Veteran's Affairs) in Seattle. Directing a staff of 15 registered dietitians and two diet technicians, she is responsible for the development and implementation of specialized clinical nutrition programs in two Seattle and Tacoma facilities.

Programs include spinal cord injury, bone marrow transplant, oncology, renal dialysis, blind rehabilitation, home care, ambulatory care, psychiatric care, long-term care, and acute care for both medical

and surgical intensive care units.

Brooks writes, "In the dietetics field, when I say I graduated from UC Davis, I gain a lot of respect."



**Erik Vink** ('86, Agricultural and Managerial Economics) of Davis recently joined The Trust for Public Land, a national non-profit land conservation organization, as Central Valley program director. He is also chair of the Yolo County Flood Control and Water Conservation District.

**Cara Cox Roderick** ('93, Environmental Toxicology) of Newcastle, Calif., is a scientist with the California State Emergency Medical Services Authority.



**Jim van Loben Sels** ('94, Agricultural and Managerial Economics) of Spokane, Wash., is general manager/viticulturist for Arbor Crest Wine Cellars in Spokane. After working for the Solano County Water Agency for eight years, he moved to Spokane with his wife to manage her family winery.

**Kristina Mielke-van Loben Sels** ('93, Fermentation Science) is owner/winemaker of Arbor Crest Wine Cellars.

The van Loben Sels have been restructuring and repositioning their 20,000-case winery for the past five years, distributing their wines to over 30 states, Canada and Japan. Their winery is ranked 15th of 260 wineries in Washington in size and 5th largest family-run winery in the state. A number of UC Davis graduates are there, making wine and practicing viticulture.

Kristina writes that she chose fermentation science as a major at UC Davis, knowing that someday she would run the family business. After seven years working as an associate winemaker at Ferrari-Carano Vineyards in Sonoma County, she and her husband were asked to take over the family winery.

"We've spent the last five years learning about Washington viticulture and producing ultra-premium wines," Kristina writes. "We are proud to be part of this emerging viticulture region."

**Jennifer Gabriele** ('96, Animal Science) of Queens Village, N.Y., is a veterinarian with Heart of Chelsea Animal Hospital in New York City, working primarily with small animals. She received her D.V.M. from Ross University School of Veterinary Medicine in 2001. She is hoping to move back to the Bay Area after taking the California Veterinary Boards this spring. Gabriele's favorite pastimes include painting and beadwork.

**Mike Gilmore** ('96, Environmental Biology and Management) of Hollister, Calif., is a product development specialist with Snow Seed Company in Salinas. He oversees the trialing



a pest control adviser license, which he describes as being "like a plant doctor writing recommendations for pesticide applications."

**Nancy Chun** ('97, Biological Sciences) of Sacramento is a staff pharmacist for Walgreen's. She received her

program to evaluate experimental vegetable varieties such as lettuce, broccoli and cauliflower for commercial adaptability. Gilmore has

Doctor of Pharmacy degree in 2000 from University of the Pacific School of Pharmacy in Stockton.

**April Chu** ('00, Textiles and Clothing) of San Francisco is a distribution planner with the Old Navy Outlet of Gap Inc. She ran her fourth marathon last December.

**Leanne Huysentruyt** ('03, Neurobiology, Physiology and Behavior) of Brighton, Mass., is a graduate student at Boston College. She is working toward a Ph.D. in biology.

*John Krause ('97, Individual Major) of San Anselmo, Calif., is a wildlife biologist for the Central Coast Region of the Department of Fish and Game. He is responsible for land management, environmental planning and wildlife surveys.*



*Krause is working on the 15,000-acre South San Francisco Bay Salt Pond Restoration Project, the largest wetland restoration effort undertaken on the West Coast.*

*Krause and his wife have traveled extensively, including trips to Africa, Europe, Central and South America.*

*The 2004 Common Threads Award recognizes women from the Sacramento Valley and surrounding areas for agricultural, philanthropic and community service. Honorees were recognized at a special luncheon on the UC Davis campus, left to right:*

**Barbara Vineyard**, Placer County - 4-H member and leader, County Council president, secretary and area coordinator; Sierra College trustee; Placer County Fair volunteer.

**Margo Souza**, Stanislaus County - president and CEO, Harry Souza & Daughters Dairy Ranch, Inc.; director, California Milk Advisory Board.

**Parry Mead Murray**, Napa County - director, Napa Valley Grape Growers Association; member, Giles W. Elise V. Mead Foundation; Napa Valley Land



Trust; Napa Valley Museum.  
**Susan Cohen-Grossman**, Solano County - Solano County agricultural commissioner and sealer of weights and measures; member, Rotary, Polio Plus, World Neighbors.

Common Threads is a collaborative effort of the California Agricultural Leadership Foundation, UC Davis, California Women in Agriculture and nine county farm bureaus.

# Alumni Information Sheet

Take a moment to drop us a note. Return this form to the address below,  
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or complete our online Alumni Information  
Sheet at <http://www.aes.ucdavis.edu/News/Outlook/Form.cfm>.

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Street Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone (\_\_\_\_) \_\_\_\_\_ E-Mail \_\_\_\_\_

Year Graduated from UC Davis \_\_\_\_\_ Degree \_\_\_\_\_ Major \_\_\_\_\_

Occupation \_\_\_\_\_ Employer \_\_\_\_\_

Business Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Business Phone (\_\_\_\_) \_\_\_\_\_ E-Mail \_\_\_\_\_

News \_\_\_\_\_

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