

CA&ES OUTLOOK

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REACHING OUT: FINDING NEW WAYS TO CONNECT



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Message from the Dean

By Neal K. Van Alfen

Institutions of higher education play multiple roles in our society. Our primary role is the education of the citizens of California, the United States, and the world.

Research universities, such as UC Davis, also play the role of generating important new knowledge, some of which can spur economic development in our region.

Land-grant universities that have Agricultural Experiment Stations and Cooperative Extension services are also expected to direct research toward solving the agricultural, natural resource, food, nutrition, and many human social problems of our societies. This type of mission-oriented research and outreach is one of the hallmarks of our college.

The College of Agricultural and Environmental Sciences is proud of the impact its faculty research has had on improving the quality of life in California. We are determined to continue providing high-quality research and outreach services to our citizens.

One of the fun parts of my job as dean is to remind our stakeholders of the many accomplishments of our faculty members. I especially enjoy recounting how their research discoveries have created significant economic advantages for California, and how our research has helped handle the state's environmental challenges.

While we can be proud of our past accomplishments, we must continue to use the research and outreach resources provided by the state to meet current research needs.

As I visit the research laboratories of our college, I am reminded of how our faculty members lead the nation in their research productivity in the areas of agriculture, food and nutrition, and environmental sciences. I am convinced that our faculty members are doing the type of

research that our citizens need and that this research is focused largely on solving immediate problems in California.

Our biggest challenge is to move the results of our research into the hands of those who need this information. The traditional mechanism that our college has used is Cooperative Extension. Our CE specialists work closely with county advisors to assure that the research of our faculty is known to and implemented by our stakeholders.

As you will learn in this issue of *CA&ES Outlook*, we are trying new ways to interface with end users of our research results through the development of centers and institutes organized around current issues.

While departments remain the focus of how we organize and generate new knowledge at the university, we recognize that problems of society are not usually packaged in ways that reflect our departmental structure.

We are, therefore, organizing a number of centers and institutes that focus on specific themes or issues of importance to stakeholders and clientele.

These centers and institutes will be important mechanisms through which we will interface with our external partners. The centers will enable us to learn more about their research needs, and be a major source of research information for them.

Since these centers and institutes are intended to serve Californians, we are encouraging various stakeholder groups to participate with us in planning and development. This is an experiment that I feel will assure the continued role of our college in effectively serving California and its citizens.



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

Reaching Out: Finding New Ways to Connect

By Ann King Filmer

UC Davis has many centers and institutes in the College of Agricultural and Environmental Sciences that focus on gardening, nutrition, agriculture, and the environment. Traditional academic departments work well for teaching and research, but for external outreach, the college is turning to its innovative centers and institutes to work with stakeholders and to deliver information to the public.

Centers and institutes enable large numbers of faculty and researchers from many departments to work together on various important issues. This multidisciplinary collaboration allows for coordination of research, programs, and outreach. Collaborative programs also encourage sharing of high-cost equipment and space in times of limited resources.

4 Centers and institutes serve as focal points for external stakeholders -- growers, agencies, consumer groups, the public -- to get information and to advise the university on their research and education needs. Issues relevant to stakeholders are very important to the college. Part of the college's land-grant mission is to deliver research-based information to the people of California.

In previous years, home gardeners may have visited several departments and the UC Davis Arboretum for information. Soon, they will have a central place -- the Center for Urban Horticulture -- to get most of the information they need on gardening. Information delivery is an important function of centers and institutes, but certainly not the sole function. They play a central role in keeping CA&ES at the international forefront of agricultural and environmental science research and education. Bringing together the best and brightest faculty and researchers from many different departments, centers, and institutes is pivotal in defining emerging issues, identifying



research needs, conducting research, and working with external stakeholders.

The last issue of CA&ES Outlook highlighted Research and Information Centers (RICs) as a means of extending research and information in some of the agricultural sciences. This article focuses on one new institute and two new centers -- the Agricultural Sustainability Institute, the Center for the Study of Regional Change, and the Center for Urban Horticulture.

Because of their interdepartmental nature, these new centers and institutes will be housed in existing buildings on campus. Funding efforts are aimed primarily at program development, not facility construction.

These three programs are very important to the college because they all encompass agricultural, environmental, and human science issues in each of their missions, address different aspects of growth in the greater Sacramento Valley, and address coping with the changes that accompany growth.

All three of these programs are still developing, and we encourage you to watch their progress and participate in their developments.

Agricultural Sustainability Institute

While some equate agricultural sustainability with organic farming, sustainability encompasses a much broader vision. With global population expected to increase by 40 to 50 percent in the next 50 years, food production will need to increase by 50 percent without significant increase in farmland or water, and with pressure from urbanization. The Agricultural Sustainability Institute at UC Davis will address long-range global planning for this not-so-distant scenario.

The College of Agricultural and Environmental Sciences -- with its expertise in agricultural and environmental sciences, biotechnology, and agricultural economics -- is well positioned to become an international leader in agricultural sustainability. The college's commitment to develop an Agricultural Sustainability Institute will help achieve this leadership goal.

Our Vision

The main focus of the institute will be to generate and disperse information to a broad audience. The institute will involve many depart-

ments in the college and will encompass several programs and centers. Its focus will be on collaborative research, education, and outreach programs that address the short-term and long-term needs of sustainable agriculture.

The scope of agricultural sustainability is broad. It encompasses food production for a growing population while maintaining biodiversity and conserving natural resources. At the same time, sustainability must address the short- and long-term pressures that agriculture will encounter from development (urban and suburban encroachment onto agricultural lands) and urban competition for water.

Planning

Eric Bradford, professor emeritus in the animal science department, led the development planning process for the Agricultural Sustainability Institute. **Calvin Qualset**, director emeritus of the Genetic Resources Conservation Program, was recently named interim director of the institute. They identified both large- and small-scale issues that will form the basis for much of the research and outreach of the institute.

Large-scale sustainability issues include future energy sources and energy costs for farming, development of farming practices and cropping systems that will be in place in 100 to 200 years, consumer market analysis, and maintenance of environmental quality.

Short-term and small-scale sustainability needs include small farm livelihood, developing economic opportunities for growers, and developing sustainable farming practices for both conventional and organic systems.

Project-based programs, such as the Center for Integrated Farming Systems, the Long-Term Research on Agricultural Systems (LTRAS), the Student Farm, and the Sustainable Agriculture Research and Education Program (SAREP) will be closely linked to the institute.

Stakeholders

The Agricultural Sustainability Institute will ultimately impact every Californian. Stakeholders include growers, agricultural processors, agricultural commodity groups, legislators and policymakers (within California and nationally), bankers, environmental agencies, students, and K-12 education programs.

External stakeholders will help define the role of the institute through an external advisory committee.

Education

An exciting component of the institute is the focus it will have on education for all audiences -- external stakeholders, university students, and K-12 students. UC Davis is developing a new undergraduate major with a focus on agricultural sustainability. More than 100 faculty from many departments have expressed an interest in the new major, and faculty feel that curriculum is a high priority within the institute.

For UC Davis to continue to be a world leader in sustainability, it needs to produce future researchers in this field. In addition to a new major, students will have the opportunity to participate in internships and other study programs through the institute. Students in non-agricultural majors will have many opportunities to learn about agriculture

through the institute and its affiliated programs such as the Student Farm.

The Student Farm, currently under the direction of **Mark Van Horn**, has a strong educational component not only for university students, but also for K-12 students. The farm has a Children's Garden and school gardens project. The Student Farm's affiliation with the new institute will help broaden the youth-education component of the institute.

Looking Toward the Future

There is little doubt that California agriculture will operate differently in the future based on growth and development projections, environmental awareness, and changing consumer concerns. Sustainable practices in traditional agriculture must be developed to accommodate future agriculture.

Through the Agricultural Sustainability Institute, UC Davis is proactively establishing itself as a national and international leader in sustainability. According to Bradford, this will allow our college to continue to address its fundamental agricultural mission, and the issues and communities that are impacted by agriculture. He and other researchers feel that the institute offers the best hope for doing that.

To some people, planning for agriculture 100 years from now may seem like "tilting at windmills," but





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to others, it doesn't seem that far into the future. For many Californians, their children and grandchildren will be alive in 100 years. Planning for their future is a sound investment.

Center for the Study of Regional Change

The Central Valley of California, from Sacramento to Bakersfield, is an area with one of the fastest-growing populations in the United States. Land that has historically been in agricultural production or open space is rapidly being developed into urban and suburban communities.

Change is occurring quickly in this geographic area -- demographic changes, local economic changes, traffic congestion, urban/rural edge issues, environmental concerns related to development -- and local and regional planners and policymakers are struggling to mitigate problems that are arising. All in all, the quality-of-life issues that impact everyone are undergoing flux.

Planning for a Center

CA&ES is in the early stages of

planning a Center for the Study of Regional Change. This interdisciplinary center will have a research and outreach focus, and will encompass many departments in the college, including the Community and Regional Development Program within the Department of Human and Community Development, and the Landscape Architecture Program.

Many faculty are involved in planning the Center for the Study of Regional Change. Three that are critically involved are **Ted Bradshaw** and **Michael Smith** from human and community development, and **Heath Schenker** from landscape architecture.

According to Bradshaw, understanding the dynamics of this rapidly-growing region is the core for research the center will coordinate. "It is imperative to protect the agriculture base and the vitality of the region," Bradshaw notes.

Workings of a Center

The center will coordinate research projects that address regional change and examine the consequences of unplanned development. Faculty in

diverse departments already are studying regional issues; that research can be linked and extended to community leaders through this center.

The center will serve as an axis for outreach programs that bring together policymakers, local governments, planners, land managers, nonprofit agencies, environmentalists, and social service providers. Local and regional governments can use the information to develop policies that manage growth and the changes associated with it.

The Issues

Three important development issues that affect the Sacramento Valley, which is proximate to UC Davis, are land use, the environment, and social change. The center will oversee study of the interdependency of all three of these issues and will bring together local interests for discussions on problem abatement.

- Land use – agricultural farmland conversion, urban/rural interface conflicts, and changing infrastructures to manage people, housing, and traffic.
- The environment – traffic congestion, urbanization impact on air and water quality, and protection or restoration of ecosystems and endangered species.
- Social change – migration of people to the area from different cultures, shifting labor needs, housing affordability, and educational and social changes associated with rapidly growing communities.

Measuring Success

The Center for the Study of Regional Change will serve as a public forum to raise the visibility of regional development problems and will structure research to find solutions. The center will also link policy analysts and researchers with the people and agencies that implement solutions.

A large challenge for any institution is to identify the key components of regional change, study their impact on agriculture, the environment, and the quality of life, and then serve as a catalyst for solving problems. With the diversity of expertise within CA&ES,

UC Davis is in a prime position to assist with problems arising in a changing California.

Watch for new developments as the Center for the Study of Regional Change establishes itself as a key player and contributor to public policy development in California.

Center for Urban Horticulture

Urban horticulture encompasses more subjects than one might easily list. A Center for Urban Horticulture, now being planned at UC Davis, will address issues related to home gardening, wholesale nursery production, retail nursery sales, landscape design and architecture, landscape maintenance, sports field and golf course maintenance, park professionals, street tree organizations, nonprofit agencies, public gardens, public education, and K-12 education.

With California's increasing population, increasing urbanization, and a climate ideal for growing plants, the demand for information on "urban horticulture" is growing in both urban and suburban areas.

UC Davis has addressed its urban horticulture stakeholders for years through the Department of Environmental Horticulture, the Landscape Architecture Program, the UC Davis Arboretum, Cooperative Extension (which runs the statewide Master Gardener Program), and statewide programs such as the Integrated Pest Management Program.

A New View

As an academic institute, CA&ES has a unique resource base with all of these programs and departments working on urban horticulture issues. Coalescing programs through a center will allow for coordinated research projects and outreach programs. Rather than the traditional department-based focus, the issue-based approach through a center allows researchers to contribute to an interdisciplinary, multifaceted program.

There is a broad base of industry and external support for the Center for Urban Horticulture. An external advisory group, spearheaded by industry

visionary Gary Hudson, is working to put the center on a fast track to completion. With such a diverse group of external stakeholders, the effort so far has focused on identifying how to meet all of the outreach needs.

Planning and teamwork has been coordinated internally by Kathleen Socolofsky (UC Davis Arboretum), **Heiner Lieth** (the new plant sciences department, formerly environmental horticulture), **Heath Schenker** (landscape architecture), Robert Segar (campus planning), Christine Schmidt and **Michael Parrella** (CA&ES Dean's Office).

The Focus

The focus of the Center for Urban Horticulture will be both research and education. Research will focus on everything from plant production to sustainable maintenance practices to integration of urban gardens with societal needs (*garden* is used here as a metaphor for more than a traditional "home garden"). Research will be conducted through all of the participating departments and programs.

People with questions about gardening and horticulture will find up-to-date answers at the Center for Urban Horticulture. Education outreach will occur primarily through arboretum and CE programs.

Public education and youth education programs will help translate the research of the university to the public. Demonstration gardens, field days, seminars, and hands-on trainings all can be used to deliver information to external audiences.

Outreach to professional groups and organizations will occur through the center in traditional and new ways -- grower and industry meetings, seminars, field days, publications, and trade associations.

Collaborative research and education programs will be conducted through the center by many campus departments, including those already listed, along with the viticulture and enology department, the Ornamental Horticulture Research and Information Center, and the Center for Road Ecology.

The Environment

Environmental issues will be fundamental in the research and education mission of the center. Water availability and the quality of runoff water are as germane to urban horticulture as to production agriculture. Research to reduce water use and to minimize the impact of runoff water will be studied in various horticultural settings.

Education for professional and nonprofessional audiences will focus on how to select plants to minimize water use, how to irrigate efficiently, and how to prevent runoff with potential pollutants.

Other sustainable issues that will be addressed through research and education include proper plant selection, proper design and installation of plantings, efficient fertilizer use, integrated pest management practices, and green waste management.

Reaching Out

All of the participants in the planning process have an enormous amount of enthusiasm for developing the Center for Urban Horticulture. While everyone involved has a passion for some area of horticulture, they are also drawn to other people and have a strong desire to educate.

This unique group brings together a wealth of knowledge and develops new ways to educate the public about horticulture, landscapes, the environment, and the concept of "garden."



Partners Find Endowed Chairs a Good Investment

By *Christine Schmidt*

Throughout its 100-year history, UC Davis' College of Agricultural and Environmental Sciences has created strong connections in many of California's most important industries: agriculture, environmental protection, and community planning. UC Davis trained the professionals who lead these industries, provided the information that keeps them cutting edge, and -- through outreach and extension programs -- partnered with practitioners to design and implement best practices.

In recent years many of our partners in these industries have looked for ways to contribute to the college -- ways that build on this model of participation. Endowed chairs have become a favorite method for giving.

An endowed chair is a prestigious faculty position, often named by the donor, which is awarded to a faculty member working in a specific field of research, teaching, or outreach.

A gift of at least \$350,000 creates a special fund that supports activities in this faculty member's field. (With a gift of \$1,000,000, a new faculty member can be hired.)

The University of California pays salaries and benefits in perpetuity. In this way, donors help guide the university in making decisions that affect it long past any of our lifetimes.

Endowed chairs are honors that help UC Davis recruit and retain the best faculty members. Not only does the endowment convince potential faculty members that the university will support their work, but they know that the donor who established the endowed chair is also a partner.

Faculty conduct research, train students, and provide outreach services. They know that their fields of interest are making an impact outside the academic environment.

Endowed chairs can have a huge

impact. Here is one example.

Mars, Inc. Endowed Chair in Developmental Nutrition

Mars, Inc. has been a strong partner in UC Davis' activities in the area of nutrition. Working closely with nutrition department chair **Carl Keen**, the company funded research to investigate the health properties of foods such as chocolate.

Keen also focuses on the influence of diet on embryonic and fetal development. A major theme in his laboratory is that a significant proportion of birth defects are the consequence of embryonic and fetal malnutrition. The correction of nutritional deficiencies during early development could result in marked reductions of pregnancy complications.

To further work in this area, Mars, Inc. has pledged \$4 million to CA&ES, \$1 million of which is earmarked to establish an endowed chair in developmental nutrition.

CA&ES is proud to have 21 endowed chairs. They are a testament to the strong future of the college and reflect the confidence our partners outside the university have in us.

2005 CA&ES Endowed Chairs

- Maynard A. Amerine Professorship (Viticulture and Enology)
- Melvin D. Androus Professorship for Rice Weed Control (Plant Sciences, formerly Vegetable Crops)
- James G. Boswell Endowed Chair in Soil Science (Land, Air and Water Resources)
- Frank H. Buck, Jr. Chair in Agricultural Economics (Agricultural and Resource Economics)
- Anheuser-Busch Professorship in Malting and Brewing Science (Food Science and Technology)
- L.D. Davis Professorship in Pomology (Plant Sciences, formerly Pomology)
- Daniel B. DeLoach Chair in Agricultural Economics (Agricultural and Resource Economics)
- Robert M. Hagan Endowed Specialist in Cooperative Extension in Water Management and Policy (Cooperative Extension; Land, Air and Water Resources)
- John E. Kinsella Chair in the Areas of

Food, Nutrition, and Health (Food Science and Technology)

- Will W. Lester Chair (Plant Sciences, formerly Pomology)
- Mars, Inc. Endowed Chair in Developmental Nutrition (Nutrition)
- Louis P. Martini Endowed Chair in Viticulture (Viticulture and Enology)
- John B. Orr Endowed Chair in Environmental Plant Sciences (Plant Sciences)
- Dennis G. Raveling Professorship (Wildlife, Fish and Conservation Biology)
- Marvin Sands Chair (Viticulture and Enology)
- Evert and Marion Schlinger Chair in Insect Systematics (Entomology)
- Stephen Sinclair Scott Chair in Enology (Viticulture and Enology)
- Sesnon Chair in Animal Science (Animal Science)
- Peter J. Shields Chair in Dairy Science (Food Science and Technology)
- Stelling Endowed Chair (Agricultural and Resource Economics)
- Alexander and Elizabeth Swantz Endowed Specialist in Cooperative Extension (Various departments)

Endowed chairs are excellent giving vehicles that have a long-term impact on UC Davis. The minimum contribution to establish a chair is \$350,000.

If this is not within your or your business's budget, we can discuss other ways that your gifts can directly impact the research, teaching, and outreach that make UC Davis one of the world's finest institutions.

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Professor **Pamela Ronald**, Department of Plant Pathology, was named to a new half-time position as faculty assistant to Virginia Hinshaw, provost and executive vice chancellor. She serves as a “conduit” to administration, assisting with faculty initiatives and helping take ideas from concept to completion at the campus level. Hinshaw explains that Ronald will help make sure faculty issues are heard and addressed.

Professor Dan Simmons, chair of the Academic Senate, welcomes Ronald’s appointment: “I look forward to working with Pam to enhance the partnership between the administration and the Academic Senate in the governance of the campus.”

Ronald is chair of the UC Davis Plant Genomics Program and chair of the Public Affairs Committee of the American Society of Plant Biologists. She teaches courses on genetics and society and on the plants of California and the Sierra Nevada. Her research focus encompasses the molecular genetics of disease resistance in rice.



Professor **Andy Sih**, chair of the Department of Environmental Science and Policy, was elected a World Innovation Foundation (WIF) Fellow. Members

are chosen based on their background and experience.

WIF is an international consultative research group advising nations and their governments. The multidisciplinary group was founded by the late Nobel laureate Dr. Glenn Seaborg, former chancellor of UC Berkeley, discoverer of nearly 10 percent of the universe’s elements, and scientific adviser to 10 U.S. presidents.

“I am honored to be invited to join this prestigious group,” Sih said. “WIF’s focus is the sustainability of our planet and its species.”



Alison Van Eenennaam (M.S., ’90, Animal Science; Ph.D., ’97, Genetics), Cooperative Extension specialist in the Department of Animal

Science, produced a science-based video on genetic engineering titled “Genetic Engineering in California Agriculture” that won the Award of Distinction in the External Communications/Instructional category of the Communicator Awards.

The video explains the science behind genetic engineering, outlines its uses in food crops and animals, details where and why this technology is being used by California farmers, and examines the science-based concerns pertaining to the use of genetic engineering in agricultural production systems. Van Eenennaam served as writer and executive producer on the video project.

“I saw a need to develop an objective educational piece on this controversial topic in a format that would be both intelligible and accessible to interested members of the general public,” Van Eenennaam said.

The Communicator Awards is an international competition that recognizes outstanding work in the communications field. The latest competition had nearly 3,000 entries from 48 states, the District of Columbia, and seven other countries.

Since completion in fall 2004, the program has aired on UCTV. Videos and DVDs are available to county UC Cooperative Extension personnel and others interested in providing educational program on this topic. The general public can purchase copies on the Web at http://groups.ucanr.org/anronuctv/Video_Program_Sales_Information/.

Marc Braverman, 4-H youth development specialist in Cooperative Extension, Department of Human and Community Development, is director of a new center on campus, the Tobacco Control Evaluation Center.

Funded by the California Department of Health Services’ Tobacco Control Section, the center provides technical assistance in program evaluation to its local program grantees. Activities include personnel training and workshops, individual consultations, evaluation material development, and leadership in statewide dissemination and use of evaluation results.

Braverman’s specializations include program evaluation and adolescent health promotion. He directs the UC Davis 4-H Center for Youth Development. He received his M.S. and Ph.D. degrees in educational psychology from the University of Wisconsin, Madison.



Extension specialist **Frank Zalom** (Ph.D., ’79, Entomology), Department of Entomology, received the 2004 James H. Meyer Distinguished

Achievement Award, recognizing his distinguished career in research and public service. The UC Davis Academic Federation honored him at an event held on campus.

Zalom served as director of the UC Davis IPM Program for 15 years. “We mentored graduate students, researched pest issues, and shared information with the agricultural industry,” he explained. “The project provided a source of needed research funds for scientists interested in studying pest control without pesticides, understanding the ecology of pests in their environment, and developing practical solutions to pest problems.”

Entomology department chair **Diane Ullman** credits Zalom for bringing the UC IPM Program to its current level of national and international prominence.

David McCarron, adjunct professor in the Department of Nutrition, is the recipient of the 2004 International Prize for Modern Nutrition from the Federation of Swiss Milk Producers.

The award, acknowledging significant contributions to international research in nutrition, honors

McCarron for his work on mineral metabolism and high blood pressure.

McCarron is the fourth UC Davis Department of Nutrition faculty member to receive this award. No other academic institution in the world has had more than one recipient since the award's inception 38 years ago. Awards have gone to institutions in 13 countries.

Prior to joining the UC Davis faculty, McCarron was head of the Division of Nephrology, Hypertension, and Clinical Pharmacology at the Oregon Health Sciences University in Portland.



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Daniel Anderson, left, professor in the Department of Wildlife, Fish and Conservation Biology, received the Rachel Carson Award from the Society of Environmental Toxicology and Chemistry at the Fourth SETAC World Congress in Seattle. Christopher Hickey, SETAC World Council president, presented the award.

Miguel A. Mora (M.S., '84; Ph.D., '90, Ecology) of Texas A&M, Anne Fairbrother (B.S., '76, Wildlife and Fisheries Biology) of U.S.-EPA, and Franklin Gress (Ph.D., '95, Ecology) of the California Institute of Environmental Studies nominated Anderson.

The award recognizes "substantially increasing public awareness and understanding of an issue concerning substances in the environment." Anderson gave a plenary address at the meeting.

Anderson is former director of the UC Davis Ecotoxicology Program and former wildlife, fish and conservation biology department chair. His research interests focus on avian ecology, especially marine birds, raptors, and waterfowl; endangered species; pollution ecology; and management of endangered and non-game species.

Carl Keen (B.S., '75, Nutrition Science; Ph.D., '79, Nutrition), professor and chair of the Department of Nutrition, was one of six presented with the College of Agricultural and Environmental Sciences Award of Distinction at 2004 College Celebration. He received the award in the Outstanding Faculty category.

The award is the highest recognition presented by the college to individuals whose contributions and achievements enrich the image and reputation of the college and enhance its ability to provide public service.

As chair, Keen has guided the department through a period of phenomenal growth over the past 11 years and established several endowments. Keen is recognized internationally for connecting basic science with applied industry needs.

Four CA&ES faculty were honored at an annual program to celebrate newly published books by UC Davis faculty and academic appointees. The event, co-sponsored by the UC Davis General Library and the UC Davis Bookstore, combined a reception, book display, and remarks by university administrators and representative authors.

CA&ES faculty who spoke about their current research, writing, and publication experiences include:

Sophia Yin (B.S., '89, Biochemistry; M.S., '01, Animal Science), lecturer, Department of Animal Science, *How to Behave So Your Dog Behaves*.

Andrew Waterhouse, professor, Department of Viticulture and Enology, *Red Wine Color: Revealing the Mysteries*.

R. Paul Singh, professor, Department of Biological and Agricultural Engineering, *Virtual Experiments in Food Processing*.

Donald Crosby, professor emeritus, Department of Environmental Toxicology, *The Poisoned Weed: Plants Toxic to Skin*.

Miguel Marino, distinguished professor of hydrology, civil and environmental engineering, and biological and agricultural engineering -- Department of Land, Air and Water Resources, -- began a two-year term as president of the American Institute of Hydrology (AIH) in January. He served as president-elect the

previous two years.

AIH is a nonprofit scientific and educational organization that offers certification to professionals in all fields of hydrology.

Marino's research addresses groundwater modeling, contamination and management, and water resource planning and management.

Alexandra Navrotsky, interdisciplinary professor in the departments of Chemical Engineering and Materials Science; Chemistry; Geology; and Land, Air and Water Resources, received the 2005 Urey Medal of the European Association of Geochemistry, the group's highest award. The medal honors outstanding senior scientists for their life-long contributions to geochemistry.

Navrotsky is the Edward Roesler Chair in Mathematical and Physical Sciences and director of the Nanomaterials in the Environment, Agriculture, and Technology research unit. Her research focus is thermochemistry and nanoparticles. She received her B.S., M.S., and Ph.D. degrees at the University of Chicago.

Agricultural and Resource Economics faculty were award recipients at the recent American Agricultural Economics Association (AAEA) meeting in Denver.

Ph.D. student Marty Smith and Professor **James Wilen** received the Quality of Research Discovery award for their paper, "Economic Impacts of Marine Reserves: The Importance of Spatial Behavior."

Professor **Colin Carter** and doctoral student Guillaume Gruere received the Outstanding Article in Choices award for "International Approaches to the Labeling of Genetically Modified Foods."

Professor **Richard Sexton** was made an AAEA Fellow, recognizing his numerous significant achievements and contributions.

Department of Entomology faculty gave 15 invited papers on diverse topics at the International Congress of Entomology held in Brisbane, Australia. "These contributions are significant and noteworthy," said department chair **Diane Ullman**.

Rick Roush ('76, Entomology), IPM Program director, served on the

Scientific Program Committee and co-organized a section that included eight symposia.

Les Ehler, professor, presided over the general assembly of the International Organization for Biological Control as outgoing president.

Professors **Penny Gullan** and **Peter Cranston** organized a book launch and signing event for their newly published book, *The Insects: An Outline in Entomology*. Entomology graduate students and post-doctoral researchers presented seven papers and posters at the meeting.

Gyongy Laky, professor in the Division of Textiles and Clothing, created a 32" x 97" x 4" piece titled "Globalization II: Homogenization," which was featured at the palmbeach3 Contemporary art fair in Palm Beach, Fla. Described as "bold" and "insightful," the work -- constructed of apple branches, wood, plastic soldiers, sheet rock screws, and bullets -- depicts war. Laky constructed the word "WAR" so that the letters can be rearranged to create new words, such as RAM, ARM, RAW, and MAR.

Laky recently was awarded honors at the 11th Lodz Tapestry Triennial, a renowned international fiber art fair.

Jan Hopmans, vice-chair of hydrology, Department of Land, Air and Water Resources, was elected fellow of the American Geophysical Union. He was recognized for fundamental and outstanding contributions to vadose zone hydrology and for worldwide leadership in both hydrology and soil science. Hopmans will be honored at an awards ceremony in New Orleans at AGU's spring annual meeting.

John Whitaker, professor emeritus, Department of Food Science and Technology, was among three staff and faculty recognized at a ceremony honoring those for whom buildings were named at The Colleges at LaRue. Honorees were chosen for contributions to the undergraduate educational experience. Whitaker retired in 1992 after working 36 years at UC Davis.

Fourteen staff and faculty have had courts or buildings named for them since the complex opened in 2000. Namings will continue over the next six years.



Professor **Clarence Kado**, Department of Plant Pathology, chaired the International Organizing Committee for the Fifth International Biennial Conference of the Pakistan Society for Microbiology in Karachi, Pakistan in January. The session was titled "Molecular Mechanisms of Host-Pathogen Interactions." Representatives and speakers from Southeast Asia, India, Iran, Taiwan, Europe, and the United States participated.

Kado presented the A.I. Bukhari Memorial Lecture titled "Agrobacterium tumefaciens, a Promiscuous DNA-delivering Microbe with Marine Progenitor Associations." He represented the University of California during a workshop titled "Teaching and Research of Life Sciences Disciplines: Opportunities and Challenges." The presentation appeared on Pakistani television and in the Karachi Dawn newspaper.

In this photo, Kado is standing next to the pyramid monument on the campus of Karachi University.

William Chancellor, professor emeritus, Department of Biological and Agricultural Engineering, was awarded the John Deere Gold Medal by the American Society of Agricultural Engineers at its annual international meeting in Ottawa. The award recognizes Chancellor's outstanding contributions as a researcher and educator, as well as his sharing of agricultural engineering knowledge.

Chancellor is internationally recognized as a pioneer in the study of soil physical properties. His research produced new concepts and knowledge that advanced agricultural practices and understanding of compaction of agricultural field soils.

New courses that Chancellor

developed at UC Davis were forerunners of similar offerings at institutions around the world. His indexing system for agricultural engineering literature benefits engineers worldwide.

2004-05 Humphrey Fellows

UC Davis is the only UC campus administering the prestigious Hubert H. Humphrey Fellowship Program. Nine 2004-05 Humphrey Fellows -- mid-career professionals from throughout the world -- are spending one year at UC Davis engaged in academic and professional activities related to their fields of expertise and interest. The program provides a basis for lasting ties between UC Davis researchers and their counterparts in other countries.

CA&ES faculty mentors for 2004-05 fellows include:

Professor **Patrick Brown**

Department of Plant Sciences

Professor **Colin Carter**

Department of Agricultural and Resource Economics

Associate Professor **Frank Hirtz**

Department of Human and Community Development

Desmond Jolly Small Farm Center

Consumer specialist **Desmond Jolly**

Department of Agricultural and Resource Economics

Director, Small Farm Center

Professor Emeritus **Alex McCalla**

Department of Agricultural and Resource Economics

Associate Professor **Joan Ogden**

Department of Environmental Science and Policy

Professor **Wesley Wallender**

(M.S., '78, Water Science)

Department of Land, Air and Water Resources

Department of Biological and Agricultural Engineering

Professor **Ruihong Zhang**

Department of Biological and Agricultural Engineering.

For more information, contact program director **Paul Marcotte**, plmarcotte@ucdavis.edu, or visit the Web at <http://humphrey.ucdavis.edu>.

Cooperative Extension Specialists: Finding Applied Solutions to Practical Problems

By Ann King Filmer

There are people within the College of Agricultural and Environmental Sciences whose mission is to identify problems that might affect any Californian, and then solve those problems. These people develop safe pest control methods for home gardeners, they create school gardening programs, they help protect our watersheds and water quality, and they find ways for farmers and truckers to get produce to the supermarkets in fresh condition. These researchers are Cooperative Extension *specialists*.

Specialists, who are affiliated with almost every department in the college, serve as unique links between campus-based researchers, county Cooperative Extension (CE) advisors, and Californians.

Specialists have existed within the University of California since Cooperative Extension was established in 1914 (as the Agricultural Extension Service). Originally they focused primarily on commodity-based research and education aimed at agricultural improvement during an era when farming was California's primary industry, and farmers were in need of production information.

As the California population grew in the 20th century, and the economy diversified tremendously, CE specialists expanded their scope of research and outreach activities. While they once served primarily the rural farming population, they now address multidisciplinary issues related to almost all agricultural, environmental, and human science fields, in both rural and urban settings.

In addition to the many subjects related to agricultural production, specialists address a myriad of issues, including pest management, sustainable agriculture and landscapes, wildlife and land management, forestry and urban forestry, environmental quality, marine sciences, home gardening, youth and community development, nutrition and food safety, marketing, and consumer sciences.

Those who benefit from the work of specialists are agricultural produc-



ers, legislators and policymakers, professional associations, governmental and nongovernmental agencies, landowners and land managers, retail nurseries, environmental and fisheries groups, food processors, educators, health care providers, the general public, and many others.

Cooperative Extension specialists at UC Davis have academic appointments and are housed in campus departments (some work at off-campus research stations). Their primary goal -- to find applied solutions to practical problems.

They identify areas where research and education is needed, then conduct basic and applied research with faculty, Cooperative Extension advisors, and other collaborators, and they conduct outreach programs in order to connect university research with stakeholder needs.

The UC Davis College of Agricul-

tural and Environmental Sciences has 85 specialists, which is approximately 70 percent of the Cooperative Extension specialists in California. UC Davis, UC Berkeley, and UC Riverside are the three campuses that participate in the University of California's land-grant mission, which encompasses Cooperative Extension.

Specialists identify problems that can be solved by CA&ES research, they form partnerships on campus and beyond to conduct the research, and they extend the results to clientele and stakeholders. For nearly a century this model has worked to extend CA&ES research-based information to broad audiences throughout California.

CE Specialists represent the three divisions of the College: agricultural, human, and environmental Sciences.

Agricultural Sciences

Mary Louise Flint sees the importance of specialists as “a primary way of getting research-based information to the people of California.” A specialist in the Department of Entomology, she also directs the education and publications staff in the statewide Integrated Pest Management Program.

Flint conducts outreach through production of publications, development of training programs for CE farm advisors and master gardeners, and working directly with commodity groups, public agencies, and other stakeholders

Flint’s program focuses on pest management in the urban environment. She develops training materials for CE master gardeners and farm advisors to use with the public, such as manuals, fact cards, Web pages, and interactive CDs.

“The collaboration of specialists with county-based advisors leads to coordinated statewide programs,” said Flint.

Human Sciences

James Grieshop, community education development specialist in the Department of Human and Community Development, notes that community development specialists are very entrepreneurial in their approach to working with nontraditional stakeholders. Sometimes they use the traditional linkage with county CE advisors; and other times they create unique and innovative partnerships with external clientele.

Grieshop works with El Dorado County advisor **Dan Desmond** on a Latino outreach project in the South Lake Tahoe area. Along with **David Campbell** of the California Communities Program (human and community development department), they conduct community-based research on issues that impact the Latino community.

Based on the success of this program, the El Dorado Community Foundation adopted the Latino outreach project as one of its community awareness issues.

Environmental Sciences

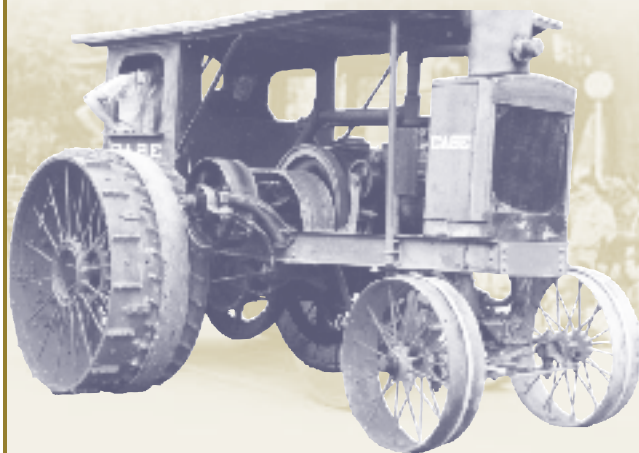
Anthony (Toby) O’Geen in the Department of Land, Air and Water Resources is conducting a new project with broad agricultural and environmental impacts. A soil resource specialist, he monitors the capacity of constructed wetlands to filter a suite of water quality contaminants in agricultural tailwater ultimately destined for the San Joaquin River.

O’Geen’s project is in collaboration with other LAWR faculty, the Natural Resource Conservation Service (part of USDA), the Bureau of Reclamation, Central Valley landowners, and the State Water Resources Control Board.

O’Geen and his collaborators have measured a 97 percent reduction in sediment in the runoff water, and a significant reduction of phosphorus and nitrogen. The wetland will serve as a demonstration site illustrating one of the many best-management practices available for irrigated agriculture to maintain California’s sustainable water resources.

Picnic Day 2005 Saturday, April 16

Opening Ceremony: 9:30 a.m.
Grandstands, N. Quad Avenue
Parade Begins: 10:00 a.m.
Parade Ends: between 11:30 a.m. and 12:00
noon at 3rd and A Streets



Picnic Day is the largest student-run event in the U.S. -- the annual Open House for the University of California, Davis. This hallmark event showcases and celebrates the richness of campus life and the diverse achievements of UC Davis students, staff, and faculty. More than 150 events across the campus will educate, inform, and entertain. We expect 50,000-60,000 visitors to enjoy this special day.

The College of Agricultural and Environmental Sciences hospitality booth is located in front of Wickson Hall, on the corner of West Quad and North Quad. Dean Neal Van Alfen and college representatives will be on hand to welcome you and answer your questions.

Take a few minutes to stop by.

Bring along your completed entry form and drop it into the CA&ES “Jacket Basket” at the hospitality booth for a chance to win a FREE UC Davis Aggie sports jacket. It’s easy, and you don’t have to be present at the time of the drawing to win. You’ll find the form at <http://www.caes.ucdavis.edu/Events/PicnicDay.htm>.

Live on One Shields Avenue!

Ten graduate students received the 2004 Milton D. and Mary M. Miller Plant Science Award: **Richard Heerma**, **Cayle Little**, and **Holly Johnson**, plant sciences; **Bobette Jones** and **Timothy Kuhn**, ecology; **Melody Meyer**, plant pathology; **Scott Oneto**, weed science; **Kristie Pellerin**, plant biology; **Todd Rosenstock**, international agricultural development; and **Stephen Young**, soil science.

Established in 1977, the award provides grants to members of UC Cooperative Extension seeking advanced degrees and supports CA&ES undergraduates interested in Cooperative Extension careers.

Sarah Shemwell, third-year textiles and clothing major, placed third in the Robert Kaufman Fabrics' Quilt



Quest competition. Shemwell, who has been making quilts for 11 years, submitted a traditional twist quilt, shown above.

"I wanted to create something that incorporated numerous traditional blocks in an eye-twisting design," she said. "By designing my own patterns, I am able to keep up with new techniques which I can apply to future quilts and conquer any quilting challenge I face."

Shemwell's quilt is among other winning quilts currently traveling in a nationwide exhibition. For more information and tour locations, visit www.kaufmanquiltquest.com.



Nicole Sunseri, fourth year microbiology major, is the 2004 award recipient of the American Society for Microbiology's Undergraduate Research Fellow-

ship program. She currently is chapter president of ASM's undergraduate Davis chapter.

"Receiving this award was completely unexpected," Sunseri said. "It has given me some much-needed confidence in pursuing a future in research and medicine."

Each fellow receives a \$4,000 stipend, a yearly subscription to ASM's monthly magazine, and expense reimbursement for the ASM annual conference. Sunseri worked with food science and technology Professor Glenn Young studying *Yersinia enterocolitica*, a common food pathogen.

Plant sciences graduate students **Holly Johnson** and **Tim Spann** won presentation awards at the 31st annual meeting of the Plant Growth Regulation Society of America in Charleston, S.C. Spann won the Bayer CropScience Best Student Oral Presentation award for his research on pistachio rootstocks. Johnson won the Bayer CropScience Best Student Poster award for her research on walnut flowers.

Fifty students attended UC Davis chapter's Multiculturalism in Agriculture, Natural Resources and Related Sciences' (MANRRS) Pre-Career Fair Seminar and Mixer for Environmental Sciences. The event took place at the University Club conference center.

Recruiters from the California Department of Pesticide Regulation, the National Weather Services, Air Toxins Ltd., U.S. Bureau of Land Management, the USDA Forest Service, Veridian Environmental Inc., and Aerotek Environmental discussed employment opportunities at their respective companies and accepted resumes from students.

For information about MANRRS, contact Erlinda Gonzales, etgonzales@ucdavis.edu.

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Students in fall quarter's Entomology 1 class connect art and science through an entomology art show. The "Art, Science, and the World of Insects" exhibit showcased student works through ceramics, textiles, graphics, and murals.

Works ranged from tile installations, sculptures, mosaics, scarves, and insect costumes, said department chair Diane Ullman.

Fourth-year biochemistry and molecular biology major **Theresa Wong** created a chessboard with insect chess pieces.

Fourth year genetics major **Yaneth Dimas** created an expressive piece that involved a fetus, extinct insects, and plants to express her concern for stem cell research.



Third-year psychology major **Daisy Luna** suggested creating a large class-collaborative mural integrating images of different insects. Second-year psychology major **Sayuri Tanabe** created close-up

sketches of individual insects for the mural.

"I took this class partly because of an aversion to insects," said fourth-year studio arts major **Artemis Nelson** who produced a handbound book of poetry.

"I thought it might help to look more closely at insects, and it has," Nelson said. "I am

fascinated by their beauty, strangeness, and the amazing adaptations of the many species' bodies to their environments."



Graduate student **Dominic Reisig** from the Department of Entomology received an honorable mention for his presentation on spider mites and cotton aphids in San Joaquin Valley cotton at the Cotton Insect Control Research Conference's graduate student competition in New Orleans.

The competition is designed to encourage outstanding graduate work in cotton entomology and promote graduate student attendance at the National Cotton Council's annual Beltwide Cotton conferences.

The competition is designed to encourage outstanding graduate work in cotton entomology and promote graduate student attendance at the National Cotton Council's annual Beltwide Cotton conferences.



Paul Fawcett, left, 2004 candidate majoring in human development, was commencement speaker at the CA&ES winter commencement. He is pictured with UC Davis Chancellor Larry Vanderhoef.

While at UC Davis, Fawcett participated in Writing Ambassadors, Aggie Ambassadors, Animal Ambassadors, Alpha Gamma Rho fraternity, and animal barn tours.

"Whether I decide to go into education administration or agricultural policy," Fawcett said, "I know UC Davis has prepared me to be a leader and innovator in the field of my choice."

Robert Schroeter, graduate student in the Department of Wildlife, Fish and Conservation Biology, is working with students from Solano Community College to research human impact on Suisun Marsh aquatic spe-



Left to right, **Rosie Macias**, counselling assistant supervisor, CA&ES Dean's Office; **Ann Sjolund** and **Anna Hennings**, second year textiles and clothing majors, and **Joan Chandler**, textiles and clothing lecturer.

UC Davis' Student Fashion Association (SFA) held a blanket sale during fall quarter to fund-raise for SFA events, including its end-of-the-year banquet, "The Black, White, and Pink Ball." Fleece material was donated to the Division of Textiles and Clothing by Mountain Hardware and Ariat. Members held a blanket-making workshop to launch the fundraiser.

"SFA raised \$600 and also donated 20 blankets to Davis' Family First. Giving these blankets to Families First was a great joy," second-year textiles and clothing major **Anna Hennings** said. "It was the perfect way for our club to contribute to the community, especially during the holidays."

SFA will host a day of T-shirt dyeing outside of Everson Hall on Picnic Day.

cies. Schroeter's research assistants are funded by a grant to SCC's Math, Engineering, and Science Achievement (MESA) program.

"It's rare for community college students to do this kind of high-level research," MESA director Mostafa Ghous told The Vacaville Reporter. "It makes their [four-year college] applications more competitive."

The students collected before- and after-samples and presented their research at the MESA Student Conference. Schroeter said that he would be using their data for his final research presentation.

Graduate student **Erika Scharfen** and fourth-year animal science major **Jolene Berg** are among several students helping the Animal Science Goat Facility organize and maintain a new goat display for the 152nd Cali-

fornia State Fair, Aug. 12 - Sept. 5.

According to animal resource supervisor Jan Carlson, the facility has provided goats for the fair's livestock nursery, milking demonstrations, and showmanship competitions for many years. This year's additional display will detail ways in which goats contribute to our society. Berg and Scharfen have been involved with the goat facility program since they started attending UC Davis.

For information about the California State Fair, visit <http://www.bigfun.org>.

Chicken Genome Analysis



Mary Delany, associate professor in the Department of Animal Science, is part of an international research team that analyzed the recently sequenced chicken genome, the first genome of a livestock or bird species ever to be sequenced. The work was done with DNA from an inbred line of chickens developed by professor emeritus **Hans Abplanalp** in the former Department of Avian Sciences.

This analysis is valuable to researchers because the chicken is a distant relative to humans and other mammals. A chicken's development is similar to that of a mammal's, and because it occurs within an egg, it is easily accessed and studied by researchers.

The genome data has implications for evolutionary and medical research, as well as for poultry science. For example, the first tumor virus and the first cancer gene were discovered in chickens.

Delany was co-author of the genome effort and a coordinator of the analysis. News of the genome analysis was published in the journal *Nature*.

Phylloxera Findings

Although destructive phylloxera insects have been reported feeding on grape rootstocks in several declining Northern California vineyards, the cause of damage appears to be from associated fungal activity and not a loss of rootstock resistance.

Professors **Jeff Granett**, Department of Entomology, and **Andrew Walker**, Department of Viticulture and Enology, are conducting studies at several field sites in Napa, Sonoma, and Mendocino counties. Their findings suggest that fungi are spread by phylloxera as they taste and probe among feeder roots and older storage roots of the grapevines, leaving the roots more vulnerable to decay.

Granett and Walker will study the effects of irrigation related to elevated phylloxera populations, as well as any changes in the virulence of the phylloxera. They urge vineyard managers in California to notify them of any unusual phylloxera activity.

Invasor Threatens Coastal Waters

Ted Grosholz, specialist in the Department of Environmental Science and Policy, released findings of research he conducted at Bodega Harbor, showing that a newly introduced invasive animal can dramatically increase the damaging effects of a previous invader.

This case involves two native species of clams that have lived in Bodega Harbor for many years, feeding on phytoplankton and serving as a food source for shorebirds, native crabs, and other predators.

A third alien clam lived in the harbor in small numbers until about 1994 when the European green crab arrived and altered the dynamics by feeding on the native clams. Once the green crab reduced the number of natives, the invasive alien clam was able to spread through the harbor rapidly.

Grosholz says that when non-native species facilitate the spread of other invaders, there is a danger of rapid and extensive ecosystem change and possible collapse that could impact human health and well-being.

Belching Cows Contribute to Smog

California dairy cows produce only half the amount of air pollution as previously believed, and most of a dairy cow's contribution to smog comes not from manure but from belching, according to **Frank Mitloehner**, specialist in the Department of Animal Science.

These unexpected findings may radically change the practices of California regulators and dairy operators trying to comply with strict new pollution rules. Rather than capping or aerating manure lagoons, biological approaches -- such as animal feeding and management -- may be considered.

Mitloehner studied dairy cows in controlled environmental chambers to collect precise measurements of the volatile organic gas emissions they produce. He videotaped the cows to correlate the timing of emissions with

their activities, such as eating, ruminating, and excreting.

Mitloehner collaborates with 14 atmospheric scientists, engineers, and physicists from UC Davis, UC Berkeley, Stanford, Harvard, and Iowa State universities, as well as the USDA.

Garden-Based Learning

Why are school gardens gaining popularity across the globe? What impact has garden-based education had on academics, environmental education, nutritional awareness, and community life?

Specialist **James Grieshop**, Department of Human and Community Development, Aarti Subramaniam, doctoral student from India, and **Daniel Desmond**, Cooperative Extension advisor in El Dorado County, designed a strategy to communicate with individuals, communities, and educational institutions internationally to study the role of gardens in educational settings.

One of the products of this collaboration was a United Nations Food and Agriculture Organization publication titled *Revisiting Garden-Based Learning in Basic Education*. The material has been adapted to Web sites and conference materials and currently is used in teaching venues in Africa. The project generated an international outreach and communication network between the college and practitioners abroad.

Technology vs. Microbes

Gang Sun, professor in the Division of Textiles and Clothing, developed a new technology that binds chlorine-based sanitizers to nearly any textile and can help prevent the spread of infection via bed linens.

Sun found that the disinfection chemistry in swimming pools could be applied to textiles, which leads to the development of refreshable biocidal textiles. "The use of halamine technology can be a major development in the battle against microbes that spread infection," he said.

The technology has broader application for personal protection of emergency workers and the public, in addition to use in hospitals. Currently, not all emergency workers have proper protection against infectious diseases or biological agents. Sun hopes he can help improve protection for these workers and soldiers.

Finding a Whey to Seal Food

Professor **John Krochta**, Department of Food Science and Technology, developed edible whey-based food coatings as a new and improved way to stop spoilage. Krochta says that it is a very natural approach to protecting food.

Rather than putting the oxygen barrier on the package, applying it on the product itself allows for simpler and more economical packaging, makes many foods resistant to spoilage, and helps use a dairy by-product that is often discarded.

The edible coating can be used to cover nuts to keep them fresh in packages or candy bars, or to seal foods like salmon or sliced turkey, possibly with the addition of a natural antibacterial agent. Whey-based films can be used to make sealed pouches that hold measured amounts of product, such as dried buttermilk powder that bakeries can toss directly into the mixer.

"The possibilities are endless," says Krochta.

Plant Hydraulics

Professors **Wendy Silk** and **Jan Hopmans**, Department of Land, Air, and Water Resources, and **Angela Cheer**, Department of Mathematics, are studying the hydraulics of plant growth -- the exchanges of water between the growing plant and surrounding soil. Their research was chosen by the UC Davis McClellan Nuclear Radiation Center to pioneer a new technology called "neutron radiography" for agricultural and environmental research.

"Neutron radiographs" provide an image that reveals water in soil in the same way an X-ray reveals bones in animals. The radiographs show how much water is removed from the soil around the plant root tip and how much is absorbed by older parts of the root and then pushed into the tip from developing transport tissue. Soil moisture at the root tip impacts the uptake of nutrients and toxic ions, and root growth.

According to Silk, understanding water movement at the root tip in the plant-soil system is fundamental to understanding the basis of the food chain.

Bronze Donkey: A Family Effort to Benefit Animal Science

What do you get when you combine a little girl, an artistic dad, and a donkey with a sweet tooth? At the Department of Animal Science, the result is a striking quarter-scale bronze bust, titled "The Jack," created to raise funds to improve the department's horse facilities.

Five-year-old Eliana Meyer delights in visiting a prized donkey named Action Jackson, which belongs to the breeding herd of the department, where Eliana's mom, **Deanne Meyer**, is a Cooperative Extension specialist. Eliana often brings Action Jackson a fistful of carrots and candies to spice up his diet. Action Jackson stands at stud in the animal science horse barn, where he has sired many award-winning mules.

When Eliana's dad, Trent Meyer, an accomplished bronze sculptor, wanted to create a sculpture for a department fund-raiser, Eliana suggested her old friend Action Jackson

as the perfect subject. Given that Trent Meyer's father graduated from UC Davis in 1950 with a B.S. in animal science, it isn't surprising that the third generation Meyer is a big animal fan and supporter!

A limited edition of 50 signed and numbered bronze statues were created, each one-fourth life size. The sculptures are priced at \$1,500 each. Proceeds from the sale will be used to improve the public entrance to the Cole Facility equine barn and arena near the UC Davis Arboretum.

Gary Anderson, department chair, said, "This is a nice opportunity for people who would not or could not donate

\$75,000 to the realization of this needed renovation project. It will take 50 people to make this happen, and each of them will be an important part of our fund-raising effort."

For information, contact Dan Sehnert, (530) 752-1256 or djsehnert@ucdavis.edu.



Sculptor Trent Meyer and daughter Eliana visit prized donkey Action Jackson who lives in the animal science horse barn.

125th Anniversary of Viticulture and Enology, 1880–2005



Filling, corking, and wiring wine bottles during the early 1900s. Photo courtesy of the Department of Viticulture and Enology

By **Susan Kancir**

The Department of Viticulture and Enology celebrates its 125th anniversary in 2005. Alumni, wine enthusiasts, and friends are invited to join the department for a spirited commemorative event on Tuesday, June 28, 2005, at UC Davis.

We're Planning a Party!

When asked about plans for the celebration, professor and department chair **James Wolpert** said, "First of all, it will be a party -- great wines and great food! There will be informative presentations about the future of wine and winemaking, and we'll talk about UC Davis' role in making it a thriving industry."

Participants will be treated to a tasting of wine styles of the last century. **Linda Bisson**, professor and chair of the 125th celebration, is instructing her winemaking class in crafting turn-of-the-century wine -- just for the anniversary celebration.

"We used 65+-year-old port barrels [for fermentation] and French Colombard grapes, just like in the old days!" Bisson said. "The foot-stomped stuff was very, very vegetal, so I hope it settles out."

California winemakers, wine journalists, and wine retailers will discuss California wine style. The day will end with a splendid tasting of wines by alumni who are among the world's

top winemakers, followed by a gala dinner.

The celebration promises to be an enjoyable and thought-provoking day for alumni, wine enthusiasts, and friends.

Bringing "Intellectual Capital" to the Industry

The core of the anniversary celebration really acknowledges the pivotal role that UC Davis has played in the emergence of California's fine-wine industry. Wolpert believes the primary contribution of the viticulture and enology program has been what he calls "intellectual capital."

"The best way to influence is to populate the industry with graduates who are knowledgeable and who industry will hire," Wolpert said. "There have been 1,000 graduates charted from the department in the 100 years we've been on this campus. About 700 of these students are still in the wine business. With approximately 1,500 wineries in California wanting winemakers, what's needed is intellectual capital."

Identifying Varieties and Solving Problems

In 1880, the California State Legislature mandated that the University of California establish a program for teaching and research in viticulture and enology. Wolpert and Bisson high-

lighted the program's contributions through the years.

Early efforts focused on identifying grape varieties and clones suited to the region so that quality wines could be produced and on developing profitable vineyard practices.

Equally important was identifying problems in winemaking, such as microbial spoilage in the industry and determining how to prevent it. The role of lactic acid in fermentation was defined, and controlled temperature fermentations became possible using stainless steel instead of wood.

Once spoilage issues were addressed, the department focused on characterizing varietal attributes that influence flavor and aroma profiles.

"This helped producers elevate the quality of their wines", says Bisson. "The language and dialogue of wine was revolutionized. The new wine aroma wheel contained real-world descriptors of wine, such as cherry, citrus, and burnt match -- replacing the vague claims of wines such as sassy, bold, and assertive. The consumer was the biggest beneficiary of this work, as it made wine more approachable."

Wine: More Than a Product

Where does the department go from here? Distance learning for industry personnel who need knowledge in specific areas is a high outreach priority. Research will focus on factors that contribute to "high-end" wines.

Another emphasis will be on making heart-healthy red wines more economically. Wolpert explains that wine is not just about growing a product.

"The starting point for winemaking changes year after year," he explained. "When the produce comes through the door, you ask the question: 'What are the challenges and the opportunities to make great wine this year?' It's different from year to year. Our students and faculty are challenged to ask that question."

Join the Party!

Visit <http://wineserver.ucdavis.edu> or call (530) 752-0380 for updated information about the 125th Anniversary Celebration. To register for the event, call (800) 752-0881.

Catherine Nobles Sinnott ('47, Home Economics) of Lafayette, Calif., is enjoying retirement after several "great jobs" related to her major. In 2004, she traveled to New Zealand.

Harold Nelson ('50, Individual) of Delano, Calif., has been involved on the family farm for more than 50 years. Gloria, his wife of 54 years, passed away in 2004. Nelson has been very active in his community, including serving on the Columbine Elementary School Board for 29 years. He recently was appointed to finish his wife's term on the same board. Nelson also served on the boards of Delano Growers Grape Products and Delano Earlimart Irrigation.



William Ralph Andersen (Ph.D., '63, Genetics) of Orem, Utah, is professor emeritus of genetics, Brigham Young University. In 1999, he co-

authored the textbook *Genetics: The Continuity of Life*. Andersen and his wife, Connie recently worked in Vanuatu, a chain of 80 islands in the South Pacific, for 18 months, focusing on primary and secondary education for children and youth and on technical training and academic opportunities for young adults.

The Andersens have five children, 17 grandchildren, and two great-grandchildren.

Judith Garrett Held ('63, Dietetics) of Brandon, Fla., received a second bachelor of science degree from Texas A&M University, Galveston, in maritime administration. She spent eight years in Kwajalein, Marshall Islands, as a civilian running boats for the U.S. Army Missile Range. Married with three sons and one grandson, Held is now retired. She is a volunteer crewmember on the WW II cargo ship American Victory and assists with restoration work.



Robert Graf, Jr. ('66, Biological Sciences) of Charleston, S.C., retired from American Airlines as a pilot in 2004. He is traveling, learning Spanish,

playing golf, and enjoying life on the river with seven cats, three dogs, and hundreds of koi. After graduating from UC Davis, Graf served in the Air Force as a pilot, six years active and 18 years reserve.

"I've had other interesting jobs throughout the years," Graf said. "including selling advertising and teaching students about commercial jet simulators. I loved UC Davis. It was a much smaller school when I started [4,000 students]."

Peter Witherell (M.S., '70; Ph.D., '73, Entomology) of Durham, N.C., retired in 2004 from USDA-APHIS after 30 years of service with the federal government. Most recently, he served as a pest exclusion specialist for the Treatment Quality Assurance Unit at the Center for Plant Health Science and Technology in Raleigh.

Witherell and his wife, Bea, have three children and two grandchildren. He assists at the State Farmers' Market in Raleigh.



Randolph Keim (M.S., '72; Ph.D., '74, Plant Pathology) of San Clemente, Calif., is a diagnostician, selecting "suspect samples" from production nur-

series in Orange and north San Diego counties and culturing them in his lab. When materials considered "suspect" are sent to him, they are cultured and potential pathogens are reported to nurseries.

Keim earned his B.S. from UC Berkeley in 1942 and then spent three years in the U.S. Navy. He came to UC Davis in 1970 to receive his Ph.D. after raising a family. Keim and his wife have two sons; one graduated from Cornell, the other attends UC San Diego.

Ellen Bennett Hickerson ('75, Food Science) of Jones, Okla., is a self-employed dietitian. Her "Aggie" family recently moved across town so that her husband would be closer to his job with the Oklahoma Aggies in Stillwater. They recently traveled to Australia, describing the Indian Ocean as "beautiful and warmer than California beaches."

Caryl Thompson Say ('73, Environmental Planning and Management) of Moab, Utah, is an independent associate with Prepaid Legal Services. After 15 years as an engineering technician for Lake County in Lakeport, Calif., she moved to Michigan and then to Utah. In 2002, she and her family moved to Moab, about five miles from Arches National Park.

Lance Osborne (B.S., '74; Ph.D., '80, Entomology) of Longwood, Fla., is professor of entomology at the University of Florida's Mid-Florida Research and Education Center in Apopka. Osborne is involved in an "insect farming" program -- the first of its kind in the nation -- that helps inmates at the Seminole County Correctional Facility learn about biological control.

Inmates are raising good bugs that prey on bad bugs and weeds, reducing the need for chemical pesticides. The bugs help control pests on University of Florida vegetable crops and also are being used by researchers at UF and at USDA.

Osborne works with deputy Debra Taylor who supervises the training program at the facility. "If this pilot project is successful," Osborne said, "it could develop into a system where inmates can help society by reducing reliance on pesticides and save taxpayers millions of dollars in the fight against new invasive pests."



Les Jin ('75, Individual Group) of Washington, D.C., is a lawyer and manager for the U.S. Federal Government. He is finishing his

fourth year as staff director of the U.S. Commission on Civil Rights, managing day-to-day agency operations.

Patricia Barry Bomberger ('78, Animal Science) of Granite Bay, Calif., is a commercial airline pilot with Southwest Airlines. She was a U.S. Air Force pilot for 20 years, retiring in 2000. Bomberger met her husband, John, in the Air Force. They have been married 18 years.

Jeffrey Paul Mabert ('78, Animal Physiology) of Aptos, Calif., is an electrical engineer with Wi-Fi Alliance in Santa Clara. He earned a B.S. in electrical engineering from California Polytechnic State University, Pomona, and an M.S. in engineering management from Santa Clara University.



Pamela Ching ('81, Dietetics) of Tucker, Ga., is a research epidemiologist with the Centers for Disease Control and Prevention in Atlanta.

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Andrew Pang ('84, Food Biochemistry) of Newark, Calif., is a quality assurance engineer with Legato Software, a division of EMC. The company provides software solutions that manage data in relation to storage -- movement, protection, archiving, and availability.

John Weubbe ('84, Agricultural and Managerial Economics) of Wheaton, Ill., is a commercial banker with Wells Fargo Bank, N.A. in Chicago. He recently was named senior vice president and regional head of food and agribusiness for the bank's Midwest Division. Responsibilities include developing commercial banking relationships in the food and agribusiness sector for North Dakota, South Dakota, Minnesota, Nevada, Iowa, Illinois, Wisconsin, Indiana, Michigan, and Ohio.

Lynne Moyer ('85, Agricultural and Managerial Economics) of Manhattan, N.Y., is a reinsurance underwriter with Endurance Reinsurance in New York City.

Denise Garner (M.S., '86, Food Science) of Castro Valley, Calif., is vice president -- research and devel-

opment, speciality products for The Clorox Company. She joined Clorox in 1988 in its food division and has worked in product development in numerous categories in the company, most recently as director of new business for the laundry-home care division.

Tamara Tetzke Vieira (M.S., '86, Animal Science) of Livermore, Calif., is a self-employed rancher. She transitioned into beef cattle ranching full time in 2003. Vieira and her husband, Robert, have been married for eight years.



Chris Verrill ('88, Agricultural and Managerial Economics) of Pacifica, Calif., is author of the newly released travel biography *Is For Good Men To Do Nothing*. He recounts his travels through five continents and 29 countries to discover first-hand how the world views the U.S. since the events of Sept. 11, 2001. The book chronicles the author's trek from the U.S. to Afghanistan and other countries, including his volunteer work in the Afghan refugee camps in Pakistan.

Verrill is pictured at the Saddicat School in Jalalabad, Afghanistan, where children receive a basic education and adult women are taught vocational skills.

Michael Miramontes (89, Agricultural and Managerial Economics) of Tokyo is an attorney with Morrison & Foerster LLP, headquartered in Palo Alto. His general corporate and finance practice focuses on the representation of publicly and privately held companies in transactional, corporate, and securities matters, including mergers and acquisitions, public and private debt, and equity offerings and venture capital investments.

Miramontes received an M.B.A. from University of San Francisco in 1993 and J.D. from Harvard Law School in 2000. Admitted to practice in California, he is a member of the Bar Association of San Francisco and the American Bar Association.



Margret Hatch ('92, Wildlife and Fisheries Biology) of Blakely, Pa., is assistant professor at Pennsylvania State University, Worthington, Scranton, in

Dunmore, Pa. She began her current position in 2004 after earning her Ph.D. in biology at the University of Kentucky in 2003.

Eric Knapp (Ph.D., '92, Genetics) of Redding is a research ecologist with the U.S. Forest Service, Pacific Southwest Research Station. He is developing a research program focusing on fire ecology, fuel management, and vegetation management. Knapp previously worked with the U.S. Geological Survey, managing a prescribed-fire research program in Sequoia National Park.



William Phillips (B.S., '96, Environmental Toxicology; M.S., '98, Pharmacology and Toxicology) of Seattle is a resident physician at

the University of Washington. After graduating from UC San Diego School of Medicine in 2004, he moved to Seattle to begin a residency in internal medicine with the ultimate goal of becoming an academic hematologist.



Margarita Camarena ('98, Design, Art Studio) of San Francisco, contributed artwork to the Vintage Aggies 2005 Wine Collection label

produced by the Cal Aggie Alumni Association. Her painting was selected for use on the collection's eighth edi-

tion. Collection wines are produced by UC Davis alumni, acknowledging UC Davis' preeminence in viticulture and enology and the success of its graduates. View the label at www.signaturewines.com/vintageaggies.

Camarena is senior artist in the CA&ES Dean's Office. She is responsible for the design and production of publications and collateral and branding materials for the college.



Jeannette Martinez ('00, Environmental Biology and Management) of Arlington, Va., is a biologist with the U.S. Environmental

Protection Agency, working in the Environmental Fate and Effects Division of the Office of Pesticide Programs. After receiving her undergraduate degree at Davis, she moved to Minneapolis/St. Paul to earn a

graduate degree in ecology. Martinez and her husband have one child.

Alice Lam ('02, Managerial Economics) of Milpitas, Calif., is assistant marketing manager for Eastridge, which is owned and managed by General Growth Properties, a nationwide shopping center owner, developer, and manager. Lam received her M.B.A. in finance and marketing from California State University, Hayward, in 2003.

Go Funai and Hagerenesh Solomon (both '04, Community and Regional Development) are among 16 fellows participating in the Great Valley Center's Fellows Program. While living and working in the Central Valley for 11 months, fellows complete a series of apprenticeships in politics, government, private industry, and social organization. They receive training in leadership, communication, and personal effectiveness skills.



Kelly Albin ('04, Food Science) of Fort Bragg, Calif., UC Davis All-American lacrosse player, was named recipient of the 14th annual NCAA Woman of

the Year award. The national award recognizes women in intercollegiate athletics for their outstanding achievements in athletics, academics, and community service.

One student-athlete was selected from each of the 50 states plus the District of Columbia and Puerto Rico. Albin is the third UC Davis student-athlete to capture the award.

Albin graduated magna cum laude in March 2004, earning a UC Davis Department Citation as the top graduating senior. She is working toward a master's degree in food science at UC Davis.

2004 Alumni Awards

The 2004 UC Davis Alumni Awards dinner and ceremony were held in the ballroom of the new Activities and Recreation Center. CA&ES alumni honored by the Cal Aggie Alumni Association for their outstanding personal and professional accomplishments include:

Christina Kirk Kazhe ('93, Human Development)
– Young Alumna Award

Kazhe is an attorney and partner in the Sacramento law firm Monteau & Peebles. She represents Native American tribes throughout the U.S., chairs the alumni association's Native American Society, and participates in many tribal and local organizations.

Richard Cirami (B.S., '63; M.S., '68, Horticulture)
– Emil M. Mrak International Award
Working with the South Australian Department of Agriculture, Cirami improved the production and quality of the nation's vineyards. In 2003, he received the Order of Australia Medal for services to viticulture.

Joseph Lin (Ph.D., '75, Botany)
– Distinguished Achievement Award
Lin is owner of Linbro Inc. in San Rafael. He is active in Sacramento's Chinese-American business community, promoting UC Davis programs. His community volunteer projects included work on the campaign to build Sutter Davis Hospital.

Carol Sconyers ('04, Home Economics)
– Aggie Service Award
Sconyers is a member of the Mondavi Center Advisory Board's arts education committee. She volunteers in many areas, including the AggieAdvocates legislative advocacy program and Alumni Ambassadors recruitment and scholarship efforts.

Also recognized were **Richard Rominger** ('49, Plant Science) and Evelyne Rowe Rominger, 2003 Distinguished Achievement Award recipients, who were unable to attend the previous year's ceremony. Richard Rominger was director of the California Department of Food and Agriculture and the U.S.D.A. Deputy

Secretary.

Citations of Excellence were awarded to:

Calvin Dooley
('77, Agricultural Economics and Business Management)

Connor Jameson
(B.S., '66, Animal Science)

Carl Keen
(B.S., '75, Nutrition Science; Ph.D., '79, Nutrition)

Mary Kimball
('92, Agricultural Science and Management)

Trisha Reinhardt
('97, Agricultural and Managerial Economics)

Dana Van Liew
(B.S., '78; M.Ed., '83, Agricultural Education)

Gena Weber
('97, Agricultural and Managerial Economics)

Top Winemakers

The *San Francisco Chronicle* published its Winemaker of the Year list in December 2004, acknowledging the accomplishments and status of several UC Davis distinguished alumni:

Meredith “Merry” Edwards (M.S., '73, Food Science) of Forestville was named Winemaker of the Year. For 25 years she made wine for numerous vintners and now makes her own under the label Merry Edwards Wines.



“...some of the most seductive Pinot Noirs in America,” says *The San Francisco Chronicle*. Two of her Pinots made *The Chronicle's* Top 100 Wines list for 2004.

The Chronicle's list of Other Winemakers to Watch include:

Margaret Davenport ('85, Food Science) of the Rockpile region of Sonoma Valley, retired in 2003 after 15 years with Clos du Bois Winery. An internationally known winemaker, she now makes Pinot Noir for her own brand, Davenport & Co., and consults for other wineries.

Michael Martini ('78, Fermentation Science) of Napa Valley, Calif., is executive winemaker at Louis M.

Martini. He is past president of the Napa Valley Vintners Association, past president of the American Society of Enology and Viticulture, and serves on the board of the UC Davis

Trellis Alliance. Martini plays lead guitar in a rock 'n roll band called Private Reserve.

Mark Lyon ('78, Fermentation Science) of Sonoma works with Don Sebastiani & Sons and also sells grapes from his home vineyard to Sebastiani and several other wineries.

“Lyon's work is impressive throughout the Sebastiani range,” *The Chronicle* wrote. “The 2000 Sebastiani Sonoma County Merlot is almost decadent...”

John Buechsenstein (B.S., '78, Fermentation Science) of Talmage, Calif., is winemaker and general manager for Sauvignon Republic in Santa Rosa. A winemaker for more than 20 years, he teaches regularly in the Culinary Institute of America's CIA-Greystone wine program in the Napa Valley. He also teaches Introduction to Sensory Evaluation of Wine for UC Davis Extension.

Alumni Meet in Japan, Form Partnership



Britt Yamamoto, ('00, Community Development), right, of Seattle started out at UC Davis in international agricultural development and later changed his major. His fields of specialization were international agricultural development and program management. Today, he is working toward his Ph.D. in geography at the University of Washington. When he receives his degree, he and his wife and child plan to move to India.

Yamamoto is codirector of the Institute for Transformative Learning and Awareness through Praxis (iLEAP) in Seattle. The concept for the institute was formed in Japan where Yamamoto met **J.B. Hoover**, (M.S., '93, International Agricultural Development), left.

Two UC Davis students collaborating on one big idea!

Yamamoto and Hoover established a small international educational institute based in Seattle that prepares its students for a life of personal growth and practical action. The program emphasizes social and political theory, nonformal learning techniques, critical thinking, reflection, community-based learning, project planning, development and implementation, and international field experience. Their goal is to prepare students to become agents of social change.

Hoover and Yamamoto are pictured with Hiroki Iwasawa, second from left, and David Krause.

Former Student Establishes Epstein Foundation

A nonprofit organization has been established in China to support the recruitment and development of plant nutritionists. It's a fascinating story.

The foundation was set up to administer graduate scholarships for studies and research in plant nutrition and related fields. The foundation was made possible by Professor **Xiaolong Yan** (M.S., '85, Soil Science), director of the Root Biology Center at South China Agricultural University in Gaungzhou, China.

In 1984-85, Yan was a graduate student working with Professor **Emanuel Epstein** (M.S., '41, Pomology) in the Department of Land, Air and Water Resources. Yan returned to China to receive a Ph.D., and the two men stayed in touch throughout the years. In fact, Epstein visited Yan in China in 1988.

Yan established the scholarship in Epstein's honor, naming it the Epstein Foundation. “This is a great story,” said Randal Southard, CA&ES associate dean for environmental sciences. “It reflects on the international linkages of our researchers.”

Yan is now a leader in plant nutritional research in his country. His primary interest is in the phosphorus nutrition of crops, which is important to China because of large areas of phosphate-deficient soils. Yan is collaborating with Professor **Jonathan Lynch** (M.S., '82; Ph.D., '87, Plant Physiology) of Pennsylvania State University.

2005 UC Davis Alumni College

"Beyond the Headlines"
July 15 - July 17, 2005
Buehler Alumni and
Visitors Center

The UC Davis Alumni College was established in 2004 as a way to connect with alumni. Administered by UC Davis Extension, the program is structured to build new relationships and enhance existing relationships with alumni.

Recapture the thrill of learning! Come back to campus for the Second Annual UC Davis Alumni College. Distinguished UC Davis faculty will take you "Beyond the Headlines" on a wide variety of important issues facing the world today.

The program provides alumni a chance to return to their alma mater and recapture the thrill of learning in a university environment.

-Relive the academic life and learn without the pressure of exams

-Take a tour of campus and the state-of-the-art Mondavi Center

-Revisit your favorite places and see what's new

- Network and renew friendships
When *CA&ES Outlook* went to press, the program confirmed -- among other speakers -- these presenters:

Peter Moyle, professor of wildlife, fish and conservation biology, and
Jeffrey Mount, professor of geology

Topic: The Science and Policy/
Politics of Natural Resources Management: Experiences in the Klamath Basin and the Delta

Charles Bamforth, Anheuser-Busch Professor of Brewing Science, Department of Food Science and Technology

Topic: Beer, Health, and Nutrition
Informal beer tasting to follow

Virginia Hinshaw, provost and executive vice chancellor, is scheduled to be the opening night speaker.

Topic: The Science and Politics of Vaccines and Infectious Diseases

Visit the 2005 UC Davis Alumni College Web site for information on programming, faculty, costs, enrollment, and deadlines: <http://www.alumni.ucdavis.edu/college/>.

CA&ES

IN MEMORIAM

William Harry Lange, Jr.
Professor Emeritus
Department of Entomology
July 15, 2004

Judith M. Charles
Assistant Professor
Department of
Environmental Toxicology
October 4, 2004

Magda El-Gohary
Human Development Major
Department of Human and
Community Development
December 22, 2004

Carol Rodning
Professor Emeritus
Department of Human and
Community Development
January 27, 2005

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Department of Plant Sciences Academic Organization

*Formerly the departments of Agronomy and Range Science,
Environmental Horticulture, Pomology, and Vegetable Crops*

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Groundbreaking Ceremony
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Robert Mondavi Institute for
Wine and Food Science

Thursday, June 23, 2005

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Occupation _____ Employer _____

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