

College of Agricultural and Environmental Sciences

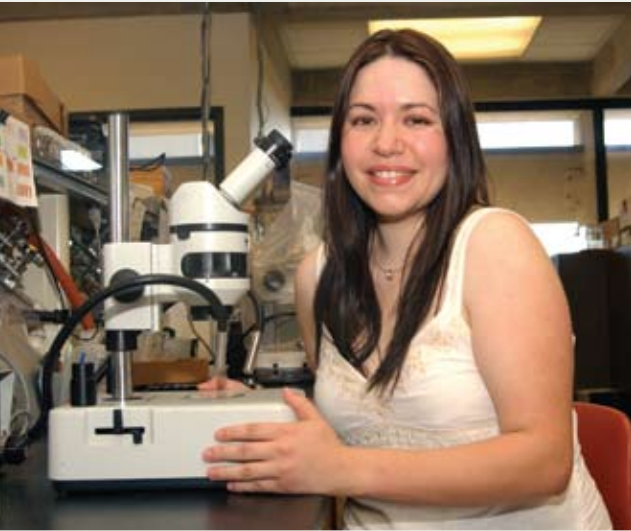
ACADEMIC AND STRATEGIC PLAN OVERVIEW

2007 – 2012



PLANNING FOR THE FUTURE

UCDAVIS



STUDENTS

4,500 undergraduate students

30 undergraduate majors

More than 1,000 graduate students

20 graduate programs

FACULTY

370 faculty full-time equivalents

70 Cooperative Extension specialists

300 I&R/AES faculty

“UC Davis has been a true partner in building the international reputation of the California wine industry.”

**ROBERT MONDAVI,
ROBERT MONDAVI WINERY**



During the next decades, California will continue to face new challenges, population growth and spread will continue, and environmental issues – such as global change and water resources – will become more critical.

OUR COMMITMENT FOR THE FUTURE IS TO:

- Reinforce the economic vitality and sustainability of California agriculture
- Solve environmental problems and steward our natural resources
- Assure human well-being for individuals, families, and communities
- Provide research-based information for sound planning and policymaking

Academic and Strategic Plan

Building upon a 100-year history of excellence in teaching, research, and outreach programs, the College of Agricultural and Environmental Sciences (CA&ES) at UC Davis recently developed a five-year plan to maintain its historic strengths while looking to the short- and long-term needs of California in the next 100 years. Our second 100 years will reinforce our tradition of service, while pursuing new challenges and technologies to assure California's economic strength, enhance its natural resources, and promote human well-being.



LEARN

It is imperative to continue to attract the best and brightest students, from California and beyond, to maintain the college's vitality and to provide California with top-notch, experienced graduates.



DISCOVER

Maintaining strength in our departments will support our internationally recognized faculty and research programs.

Innovative faculty appointments, such as joint appointments and the initiative system, allow for cutting-edge and collaborative research on emerging issues.



ENGAGE

A strong Cooperative Extension and Agricultural Experiment Station is central to our mission of applied research and outreach.

The development of centers and institutes within the college framework provides outreach opportunities for California stakeholders. International outreach is a critical component of the college, attracting the best faculty and graduate scholars to UC Davis.

The overarching goal of the College of Agricultural and Environmental Sciences during the next decade is to continue to successfully address emerging agricultural, environmental, and societal challenges that affect all Californians. Within the college's three divisions — Agricultural, Environmental, and Human Sciences — broad goals to be addressed in the future include:



Priority Areas



“The remarkable strength and scope of California agriculture comes from dynamic partnerships like those that exist between UC Davis, state government, and the agricultural industry.”

**A.G. KAWAMURA, SECRETARY,
CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE**



AGRICULTURAL SCIENCES

Continue to lead in the development of sustainable agricultural systems for California, the nation, and the world.

Improve the economics for farmers by helping them differentiate and add value to California food and farm products, while finding solutions to the problems that challenge agriculture.

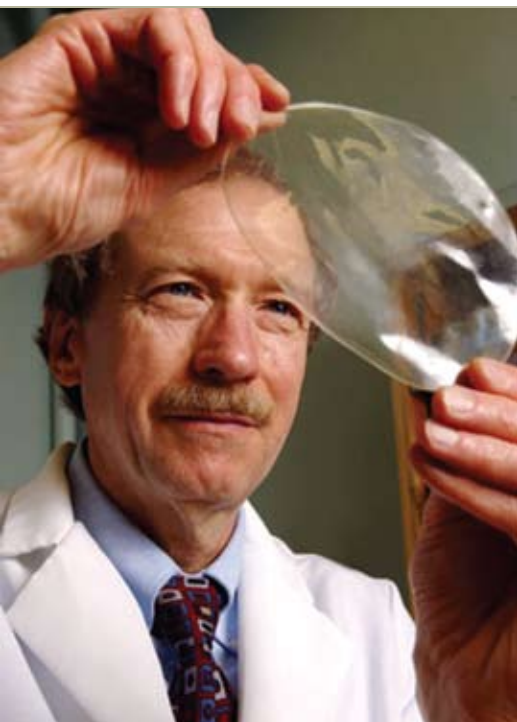
Continue to build our strength in critical emerging areas, such as food safety and nutrition, globalization of trade, economic sustainability, biofuels, and biotechnology.

ENVIRONMENTAL SCIENCES

Maintain our world-class expertise in subject areas such as water and watershed science, environmental protection, conservation biology, and natural resource and ecosystem management.

Continue strengthening our expertise in global climate change and its local and widespread impacts.

Support a strong continuum from basic and applied research to the delivery of societally important products in the environmental sciences.



HUMAN SCIENCES

Continue to address important issues related to human health and nutrition, strong families, economic and community development, and changing demographics.

Reinforce that these disciplines provide an overarching framework for human well-being, thereby influencing agricultural, technological, and environmental change.

Expand our capacity to weave agricultural, environmental, and human science research into effective decision-making by policymakers, stakeholder groups, and the public.



Future research need

The College of Agricultural and Environmental Sciences and the UC Davis campus exhibit **substantial strength** in many complex areas that impact California now and into the future. The college and campus are building upon these ten emerging areas:

AGRICULTURAL SUSTAINABILITY

Interdisciplinary research and outreach programs that integrate economic profitability, environmental health, and social and economic justice in agricultural and food systems for California and the world.

BIO-BASED MATERIALS

Research to help the transition from petroleum-based energy and products to renewable resources, such as plants, in order to provide fibers, plastics, films, food additives, oils, and fuels.

BIODIVERSITY AND ECOSYSTEM SERVICES

Maintain expertise in biological diversity and conservation, environmental informatics, and the functioning of natural ecosystems (animal, plant, and microbial).

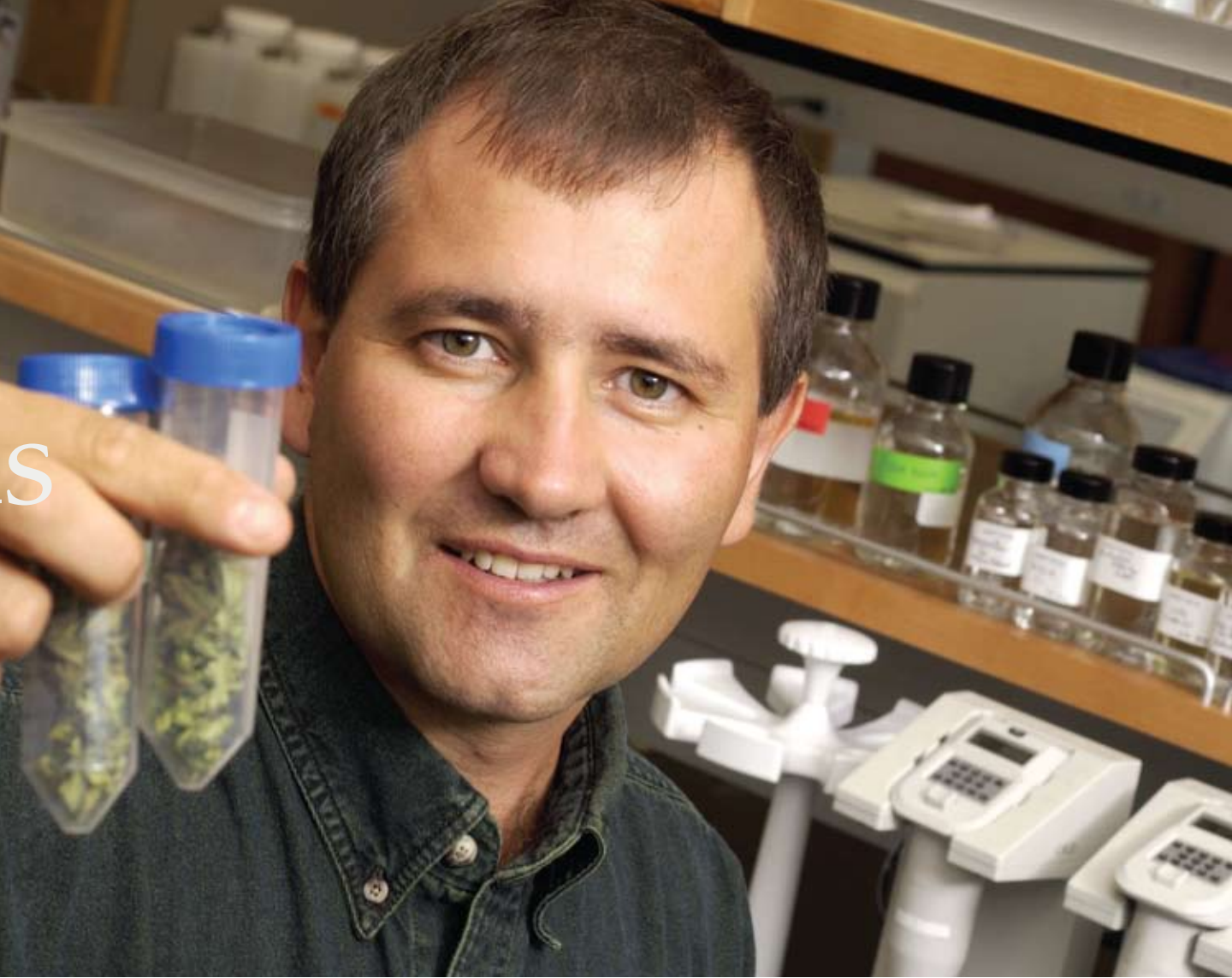
COMPLEX MICROBIAL ECOSYSTEMS

Foster an understanding of the function of and interconnections between microbial species in agricultural and other ecosystems, in order to promote agricultural sustainability and to understand global warming.

ENVIRONMENTAL AND HUMAN HEALTH

Maintain strength in the study of environmental-based health problems such as global change, infectious diseases, groundwater contamination, and trace-metal poisoning.





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ENVIRONMENTAL INFORMATICS

Develop improved systems to manage, model, and distribute large data sets relevant to solving problems in the agricultural and environmental sciences, including geographic information systems and remote sensing technology.

FOODS FOR HEALTH AND FOOD SAFETY

Enhance the campus-wide strength in developing a comprehensive program considering all aspects of food, from production to consumption, and the health of the individual.

GLOBAL CHANGE, WATER, AND WATERSHEDS

Science-based solutions are being developed to support sustainable watersheds as California's urban population grows and global climate change impacts water management programs.

REGIONAL CHANGE

Changes in the Central Valley are impacting economic, agricultural, environmental, social, and political climates. Expertise on regional change is being centralized to assist constituents of regional organizations.

SCIENCE, POLICY, AND PUBLIC PERCEPTION

There is an increasing need to understand the process by which scientific information is transmitted from the university to effective decision-making and planning by policy-makers, stakeholder groups, and the public.



Centers and Institutes

Several centers and institutes have been established to serve as **central information bases** for our stakeholders. These centers and institutes provide a focal point for faculty to address emerging issues.



ROBERT MONDAVI INSTITUTE FOR WINE AND FOOD SCIENCE

This institute houses two world-renowned academic departments — Viticulture and Enology, and Food Science and Technology — and serves as an international center for excellence in wine and food science research and education.

CALIFORNIA CENTER FOR URBAN HORTICULTURE

This center addresses the need for environmentally sound gardens, landscapes, and public parks in California. Urban horticulture significantly impacts water, energy, and resource conservation, reduced pesticide use, plant selection, and wildlife preservation.



FOUNDATION PLANT SERVICES

This unit produces and distributes virus disease-tested plant materials for use by California nurseries, thereby working with the agricultural industry to apply technology that benefits growers and the public.

SEED BIOTECHNOLOGY CENTER

This center mobilizes research, education, and outreach, in partnership with the seed and plant biotechnology industries, to facilitate discovery and commercialization of new seed technologies for agricultural and consumer benefit.

AGRICULTURAL SUSTAINABILITY INSTITUTE

A focal point for agricultural sustainability research and education programs on the UC Davis campus, this institute provides research and programs on agricultural and food sustainability for agricultural and environmental stakeholders.



**WESTERN INSTITUTE
FOR FOOD SAFETY AND SECURITY**

A multidisciplinary group of research scientists study a wide range of issues related to food safety and food security. Education and outreach address issues such as food safety, food contamination, and agroterrorism.



**CALIFORNIA INSTITUTE
OF FOOD AND AGRICULTURE, CIFAR**

CIFAR creates opportunities for research and technology exchange between UC Davis and the food and agricultural industries, providing information on new products for health and well-being, global sustainability, and resource management.

**CENTER FOR THE STUDY
OF REGIONAL CHANGE**

Focusing on the dynamics of the Central Valley and Sierra Nevada, this center helps local governments and organizations address demographic and social changes, economic changes, urban/rural interface issues, and environmental concerns related to development.

CENTER FOR PRODUCE SAFETY

The Center for Produce Safety focuses on research related to fruit and vegetable safety, outreach and training, and funds research to reduce food safety risks in fresh produce.



CENTER FOR VECTORBORNE DISEASES

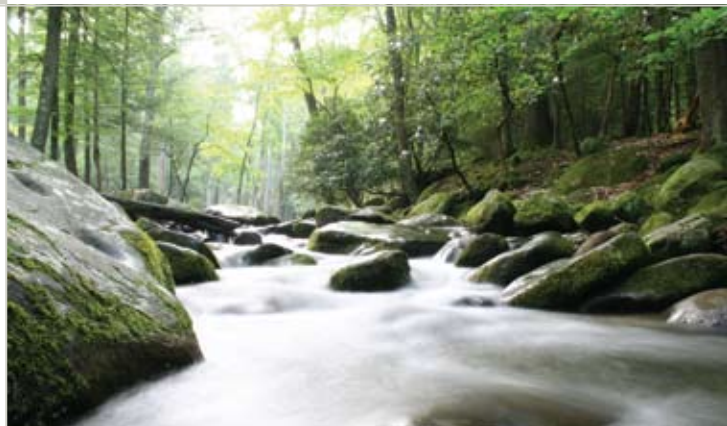
This collaborative center studies the pathogens transmitted by arthropod vectors causing diseases of humans and animals worldwide, such as West Nile virus and malaria.

FOODS FOR HEALTH INSTITUTE

This campus-wide institute fosters and supports research collaborations and partnerships in the area of food, nutrition, and health. This includes research and outreach in the areas of medicinal nutrition, food engineering and processing, quality of life, and education and policy.

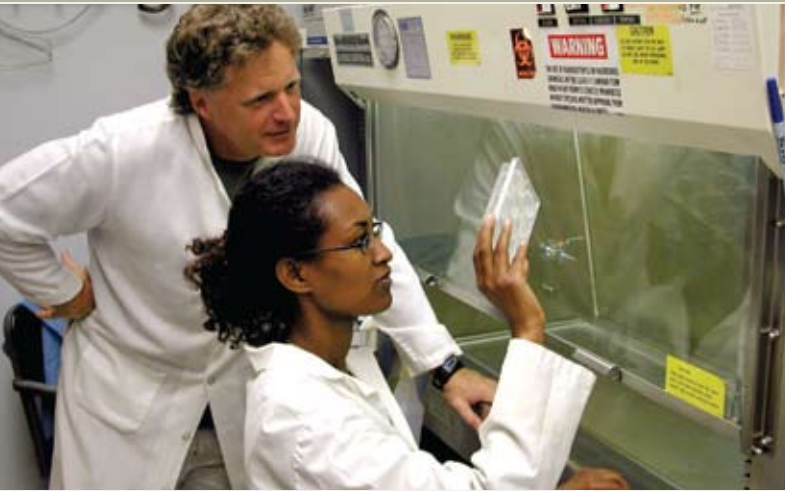
ENERGY INSTITUTE

In order to decrease our reliance on petroleum-based fossil fuels, this campus-wide institute will foster collaborative research and outreach relating to all aspects of creating and developing renewable energy sources and new technologies.



Education

Our students and graduates help shape agriculture, the environment, business, and world views on sustainability, health, nutrition, communities, and public policy. Graduates spur discoveries, solve world problems, become community leaders, and provide economic opportunities for local and global communities.



To enhance the strength of our undergraduate and graduate education programs during the next five years, the college will strive to:

- significantly boost undergraduate enrollment
- develop new majors as needed in California
- create lower-division portals that attract students to our majors
- build the international strength of graduate programs
- provide additional tuition relief to increase graduate enrollment

Academic departments

AGRICULTURAL SCIENCES

Animal Science
Biological and Agricultural Engineering
Entomology
Nematology
Plant Pathology
Plant Sciences
Viticulture and Enology

ENVIRONMENTAL SCIENCES

Environmental Science and Policy
Environmental Toxicology
Environmental Design
(Landscape Architecture)
Land, Air and Water Resources
Wildlife, Fish and Conservation Biology

HUMAN SCIENCES

Agricultural and Resource Economics
Food Science and Technology
Human and Community Development
Nutrition
Textiles and Clothing

“UC Davis is a leader in nutrition and obesity research and education. Its community-based effort to stem obesity will save lives, improve the quality of life of millions of Americans, especially our children, and reduce health-care costs.”

**C. EVERETT KOOP, FOUNDER
OF SHAPE UP AMERICA!, AND
FORMER U.S. SURGEON GENERAL**

The College of Agricultural and Environmental Sciences, part of the federal land-grant system, addresses critical issues related to agriculture, food systems, the environment, and human and social sciences through cutting-edge research, top-ranked undergraduate and graduate education, and internationally recognized outreach programs.

Our college is globally renowned for its interdisciplinary programs that include researchers from other UC Davis colleges and schools and from international institutions. These model programs have inspired similar efforts at universities throughout the world.

Our undergraduate and graduate education programs provide students with extraordinary opportunities to participate in hands-on research, preparing them to become top-notch leaders and scientists.

Scientists in the College of Agricultural and Environmental Sciences are working with Californians to solve real-world problems that produce a better world, healthier lives, and an improved standard of living for everyone.



Office of the Dean

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UC DAVIS
COLLEGE OF AGRICULTURAL
& ENVIRONMENTAL SCIENCES

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