UC DAVIS
College of Agricultural and Environmental Sciences

Top-ranked
Research and Education

www.caes.ucdavis.edu
A major land-grant university in California
Plant sciences professor Valerie Eviner studies plant-soil interactions for effective management of ecosystem services, plant invasions, restoration, global change, and grazing systems.
We are a top-ranked global leader in food, agricultural, environmental, and social/human sciences.

- Developing solutions to real-world problems
- Promoting sustainable agriculture and food systems
- Building the local, national, and global economy
- Supporting healthy families and communities
- Preserving California’s natural resources

**Research**
- Global leaders in solutions to world problems
- Interdisciplinary research to solve broad issues
- From science to application

**Outreach**
- Agricultural Experiment Station
- Cooperative Extension
- Stakeholder-focused centers and institutes

**Students**
- Developing scholars and leaders
- Hands-on learning with faculty
- Producing a highly educated and skilled workforce
- Leadership opportunities

**Partnerships**
- Industry and businesses
- Government and NGOs
- Environmental organizations
- Social service and community development agencies
Facts and Distinctions

Ranked the #1 university in the world for teaching and research in the area of agriculture and forestry.

- Researchers at UC Davis lead the nation in extramural funding in agricultural sciences.
- No. 1 institution in the U.S. for awarding degrees to undergraduate minority students in agricultural sciences.
- Top-ranked “green” university in U.S.
- Most published and cited U.S. research university in agricultural sciences, environment/ecology, and food science and nutrition.

| #1 |
| Agricultural sciences |
| Agriculture / Agronomy |
| Entomology |
| Environment / Ecology |
| Food science and nutrition |
| Plant and animal science |
| Soil science |

| #2 |
| Agricultural economics |
| Agricultural engineering |
| Plant pathology |

| #3 |
| Agronomy and crop science |
| Horticulture |
UC Davis is located in the heart of the nation’s fruit and vegetable production.

ABOUT THE COLLEGE:
- 5,000 acres; 3,700 devoted to agricultural teaching and research
- 335 faculty, 800 staff

NEAR TO:
- Napa Valley, the Central Valley, and the Salinas Valley
- Sacramento, California’s capital
- Lake Tahoe and the Sierra Nevada
- San Francisco–Bay Area

- UC Davis is the largest agricultural land-grant campus in California.
- We are the most comprehensive campus within the UC system.
- Our partners include the College of Engineering, School of Veterinary Medicine, the School of Medicine, and UC Agriculture and Natural Resources.

UC Davis scientists work at UC research centers throughout the state. These are a few of the many centers.

Departments

AGRICULTURAL SCIENCES
- Animal science
- Biological and agricultural engineering
- Entomology and nematology
- Plant pathology
- Plant sciences
- Viticulture and enology

ENVIRONMENTAL SCIENCES
- Environmental science and policy
- Environmental toxicology
- Land, air and water resources
- Wildlife, fish and conservation biology

HUMAN/SOCIAL SCIENCES
- Agricultural and resource economics
- Food science and technology
- Human ecology
- Nutrition
- Textiles and clothing
UC Davis prepares students — undergraduate and graduate — to be top leaders, policy makers, educators, researchers, and scientists.

We educate UC Davis students to be leaders. With a focus on hands-on learning, our students are trained in academic scholarship and real-world skills.

**5,800 undergraduate students**
21 percent of campus total

**1,000 graduate students**
25 percent of campus total

**Leadership**
Abundant opportunities to build leadership skills through programs such as Aggie Ambassadors, campus organizations, field trips, social activities, and more.

**Scholarships**
Funding for new and transfer undergraduates, and for graduate students, allows students to pursue education and leadership in a broad range of disciplines.

**Graduate education**
Few universities match UC Davis’ strong graduate education programs. Our graduate groups, which cross academic departments and disciplines, draw the best students from throughout the world. Students work directly with esteemed faculty, and develop research and leadership skills.
Undergraduate majors
http://www.caes.ucdavis.edu/students

AGRICULTURAL SCIENCES
- Agricultural and environmental education
- Animal biology
- Animal science
- Animal science and management
- Biotechnology
- Entomology
- International agricultural development
- Plant sciences
- Sustainable agriculture and food systems
- Viticulture and enology

HUMAN/SOCIAL SCIENCES
- Agricultural and environmental education
- Clinical nutrition
- Community and regional development
- Fiber and polymer science
- Food science
- Human development
- International agricultural development
- Managerial economics
- Nutrition science
- Sustainable agriculture and food systems
- Textiles and clothing

ENVIRONMENTAL SCIENCES
- Agricultural and environmental education
- Atmospheric science
- Ecological management and restoration
- Environmental horticulture and urban forestry
- Environmental policy analysis and planning
- Environmental science and management
- Environmental toxicology
- Hydrology
- Landscape architecture
- Marine and coastal science
- Sustainable agriculture and food systems
- Sustainable environmental design
- Wildlife, fish and conservation biology

ALSO:
- Undeclared / Exploratory Program
- Science and Society Program

Graduate Programs
https://gradstudies.ucdavis.edu

- Agricultural and environmental chemistry
- Agricultural and resource economics
- Agricultural education (credential)
- Animal behavior
- Animal biology
- Atmospheric science
- Avian sciences
- Biochemistry and molecular biology
- Biological systems engineering
- Child development
- Community development
- Cultural studies
- Ecology
- Entomology
- Food science
- Forensic science
- Genetics
- Geography
- Horticulture and agronomy
- Human development
- Hydrologic sciences
- International agricultural development
- Maternal and child nutrition
- Microbiology
- Molecular, cellular and integrative physiology
- Nutritional biology
- Pharmacology and toxicology
- Plant biology
- Plant pathology
- Population biology
- Soils and biogeochemistry
- Textiles
- Transportation technology and policy
- Viticulture and enology

Graduate students Dave Hendrickson and Anthony Hernandez check the quality of the grapes at the Robert Mondavi Institute for Wine and Food Science at UC Davis. The students process grapes for their group experiments with wine-related yeast and bacteria.

Plant sciences major Megan Reese has completed internships in production agriculture throughout her college career.
Research

Cutting-edge research on emerging issues

From the local community to the international marketplace, research conducted in the College of Agricultural and Environmental Sciences crosses the spectrum from basic to applied, and addresses environmental stewardship, and sustainability in light of local, regional, national, and global issues such as population growth and climate change.

UC Davis’ top-ranked, interdisciplinary research programs and award-winning faculty in the agricultural, food, environmental, and human sciences are a draw to industry, students, and international institutions and agencies.

The college leads innovation and serves as an engine for economic growth in California, the nation, and the world.
Critical research

• Agricultural sustainability
• Agricultural production methods
• Food security
• Nutrition
• Hunger alleviation
• Food safety
• Environmental stewardship
• Biodiversity
• Climate change
• Clean energy, air, and water
• Healthy families and communities
• International development
• Population growth
• Strong economies
• Rural revitalization
• Global disease prevention
• Reducing postharvest loss

Endowed chairs

http://caes.ucdavis.edu/connect/giving/impacts/endowed-chairs/endowed-chairs

Endowed chairs give UC Davis greater impact as a world-class university. These 24 positions attract and retain the brightest teachers and researchers. Endowed chair holders show excellence through teaching, research, and partnerships with external stakeholders.

An endowed chair is a distinction awarded to a faculty member in recognition of outstanding contributions to the individual’s discipline. An endowed chair provides funding to support teaching, research, and outreach responsibilities.

Why invest?

Investments in agricultural research and development result in a benefit-cost ratio of more than 10:1, typically 20:1 or more.

Advances in technology have resulted in long-term and sustained growth in productivity.

Postdoctoral scholar Katherine Pope researches how climate change affects walnut flowering.
Centers and Institutes

Advancing the human condition

CA&ES institutes and centers leverage research, teaching, and engagement for broader social good. They link college departments, the campus, and the UC system with local and global partners, and provide programs that meet stakeholders’ evolving needs. Highlighted here are some of the centers and institutes.

AGRICULTURAL SUSTAINABILITY INSTITUTE
With a focus on food and agricultural sustainability research, education, and outreach, the institute includes the Student Farm, the UC Sustainable Agriculture Research and Education Program, and Russell Ranch Sustainable Agriculture Facility, home to the Century Experiment.
Director: Prof. Thomas Tomich
www.asi.ucdavis.edu

CALIFORNIA CENTER FOR URBAN HORTICULTURE
Cutting-edge horticultural information for Californians is the focus at CCUH. Issues include water-conserving and pest-resistant home gardens, environmentally sound public landscapes, and producing better plant materials for sustainable urban landscapes.
Director: Dr. David Fujino
http://ccuh.ucdavis.edu

Gail Feenstra is the food systems coordinator for UC Sustainable Agriculture Research and Education Program (SAREP), part of the Agricultural Sustainability Institute.

CALIFORNIA INSTITUTE OF FOOD AND AGRICULTURAL RESEARCH (CIFAR)
The institute is a California-centric global network and innovation hub for agri-food systems technologies, creating global partnerships and multidisciplinary research between UC Davis and industry. It addresses innovations, advanced technologies, and industrial practices.
Director: Dr. Sharon Shoemaker
www.cifar.ucdavis.edu

CENTER FOR REGIONAL CHANGE
The center produces solution-oriented research to support healthy, prosperous, sustainable, and equitable regions in California and beyond. It convenes multidisciplinary university teams with diverse partners from business, government, and civic sectors to ensure rigor, relevance, and reach of research on regional change.
Director: Prof. Jonathan London
www.regionalchange.ucdavis.edu

Master gardeners learn sustainable gardening practices at the California Center for Urban Horticulture.
Bruce German, an expert on lipids and milk structure, leads the Foods for Health Institute.

FOODS FOR HEALTH INSTITUTE
The institute links scientific disciplines across UC Davis, and develops regional and international partnerships. An engine for research and innovation, the Foods for Health Institute addresses the improvement of individual health through diet.
Director: Prof. Bruce German
www.ffhi.ucdavis.edu

FOUNDATION PLANT SERVICES
Foundation Plant Services produces, tests, and distributes premium virus- and disease-tested plant materials for use by California nurseries. Plants produced include grapes, strawberries, fruit and nut trees, roses, and sweet potatoes.
Director: Dr. Deborah Golino
fps.ucdavis.edu

ROBERT MONDAVI INSTITUTE FOR WINE AND FOOD SCIENCE
A state-of-the-art complex that houses the departments of Viticulture and Enology, and Food Science and Technology, and serves as a gateway between UC Davis, scientists, entrepreneurs, and industry professionals engaged in wine, brewing, and food-related research, teaching, and outreach.
Director: Dr. Clare Hasler-Lewis
www.rmi.ucdavis.edu

SEED BIOTECHNOLOGY CENTER
The center provides the highest quality research, education, and outreach programs on seed biotechnology with companies and institutions around the world. The mission is to facilitate discovery and commercialization of new seed technologies for agricultural and consumer benefit.
Director: Prof. Kent Bradford
sbc.ucdavis.edu
The strength of the research in the UC Davis Agricultural Experiment Station has brought global prominence to the campus.

Building California’s economy

The college receives $42 million annually to support the Agricultural Experiment Station mission. UC Davis’ success in AES research has helped leverage additional research funds. The Agricultural Experiment Station (AES) leads overarching translational research directed toward important topics such as:

- Agricultural sustainability
- Food security and safety
- Health and nutrition
- Environmental sustainability
- Healthy communities

The Agricultural Experiment Station at UC Davis is one of the most productive research organizations of its kind in the world. It is not a singular facility, but a composite of dynamic programs, projects and people, spread across California, with a focus on finding solutions to critical issues. The continued vitality of agriculture to California’s economy and health can be attributed to the longstanding partnership between the UC Davis Agricultural Experiment Station and the technology-driven agriculture industry in California.

Innovation and partnerships

Through the Agricultural Experiment Station, UC Davis fulfills its land-grant mission to develop innovative solutions — locally and globally — for the human, environmental, and agricultural challenges of the future.
Cooperative Extension

Working together

Cooperative Extension is an outreach arm of the College of Agricultural and Environmental Sciences, and integral to the college’s land-grant mission. UC Davis and the UC systemwide Agriculture and Natural Resources work together, along with the 70 Cooperative Extension specialists at UC Davis. These faculty members work with county-based Cooperative Extension advisors and external partners to develop solutions that help California.

Cooperative Extension applies research and outreach to partners who help solve real-world needs. In essence, it takes science directly to the community, the field, and the people who use it. Cooperative Extension also oversees statewide 4-H and Master Gardener programs.

Left: Cooperative Extension specialist Alison Van Eenennaam uses animal genomics and biotechnology to improve livestock production systems.
International Programs  www.ip.ucdavis.edu

GLOBAL PRESENCE
The program works across campus, with international partners, and with U.S. industry in the areas of:

- Collaborative research
- Graduate study, and faculty/student exchange programs
- Training and workshops
- Curricula development
- Fellowships
- Technical support

Respected around the world

The International Programs office in the College of Agricultural and Environmental Sciences connects faculty and students from UC Davis to the global community in the agricultural and environmental sciences to build capacity in research, teaching, and outreach.

We help countries develop better agricultural and food systems to provide food security and nutrition, and eradicate global hunger. Our work contributes to developing economies, and to regional and global political stability.
“The International Programs office brings agricultural and environmental knowledge and information to the world — and brings the world and its diversity to UC Davis.”

— Jim Hill, Associate Dean for International Programs

UC Davis leads four Innovation Labs with funds from USAID, in support of the U.S. government’s global hunger and food security initiative.

Capacity Building
Short- and long-term training, curricula development, and faculty/student exchanges in Africa, Latin America, South, Central, and Southeast Asia.

Research and Extension Projects
Training, technical, and extension support in areas such as fruit and vegetable production, food safety, and reducing food loss.

Global Programs
International Programs works with campus partners to bring the benefits of modern science to economically challenged countries such as Haiti, Honduras, Kenya, and Vietnam.

Scholars/Fellows
Provides U.S.-based agriculture training for international specialists and administrators in agriculture and environmental fields. Examples include Cochran (USDA/FAS) and Borlaug LEAP (USDA/FAS/USAID).

Emeritus professor and extension vegetable specialist Ron Voss (with hat) trains Iraq agricultural extension agents in horticulture production.

Cecilia Chi-Ham (second from left), of UC Davis PIPRA, worked to transfer cold-chain technologies to small-scale flower growers in Honduras, as part of a Horticulture Innovation Lab project.

Associate dean Jim Hill (right) in Jalabad, Afghanistan, examines experimental vegetable plots with local extension agents as part of a collaborative program led by UC Davis under the auspices of USDA ARS.
Philanthropy

The margin of excellence

Philanthropic support from alumni and friends allows UC Davis to expand its ability to meet the world’s challenges and educate future leaders.

Gifts to the College of Agricultural and Environmental Sciences are investments in the future. Our faculty, researchers, and students are seeking solutions to global issues such as climate change, water, food security, and human and animal well-being. Philanthropy provides the margin of support that helps them reach their potential.

About 1,800 donors annually make their charitable investments through the College of Agricultural and Environmental Sciences. The support of many individuals, corporations, and foundations advances excellence, innovation, public service, and teaching.

The impact of each gift supports the College of Agricultural and Environmental Sciences today, and shapes our future.

Gift examples:

- Twenty-seven donors established an endowed faculty position to honor the passing of Dennis G. Raveling and to be sure his specialty of waterfowl biology remained an academic focus. Today, this area of research is a vibrant program and many graduate students have benefited through research support.

- The Swift Scholarship, established through the sale of a gift of real estate, has supported more than 200 students to date, and now supports almost 40 per year.

- The Palm Scholarship provides graduate student support funds while helping to secure federal funds that advance science.

Financial support from the Arthur J. and Dorothy D. Palm Agricultural Scholarship helped Ashley Horton conduct research on how mosquitoes transmit malaria.
Giving to UC Davis

The UC Davis Foundation—a 501(c)3 organization—was established in 1959 to administer charitable gifts that support this campus. The UC Davis Foundation has a rich history of stewarding private contributions that advance the university’s mission. Gifts made through the foundation leverage the core funding the university receives from the state of California, enhancing UC Davis’ ability to teach, discover and serve the public in ways that shape the future of our world.

Contact information:
(530) 752-1639
supportcaes@caes.ucdavis.edu
caes.ucdavis.edu/giving

- Gifts to the college are tax-deductible to the extent allowable by the IRS.
- Bequests provided through wills, trusts, or other vehicles may be designated to the college as a whole or a specific program a donor wishes to strengthen long term.
- Endowments are permanent funds that lock in a donor’s desired impact. Endowments may be established to strengthen programs, specific faculty positions, or student support funds.
- Current use gifts are spent as the donor directs in a short period of time. These funds provide immediate and strategic support to a program or student.

Support for endowed chairs allows Cooperative Extension specialist and groundwater expert Thomas Harter to conduct research and outreach programs that lead to clean and safe drinking water.

Plant sciences student Stacey Haack speaks to members of a San Carlos garden club from whom she received a scholarship that helped define her educational and career interests.
Industry Partnerships
Working together to make a better California

UC Davis stands above other universities in its multidisciplinary research that brings together leading faculty from across campus and the nation to work to tackle emerging issues and industry-driven needs. UC Davis is a global leader in establishing research partnerships with businesses, industries, and entrepreneurs throughout the world.

- Developing food safety partnerships with leafy-green growers
- Technology transfer and economic development — through patents, licensing, and entrepreneurship
- Developing insect-resistant grape varieties for sustaining California’s wine industry
- Establishing air quality standards with the Central Valley dairy industry
- Growing California’s vibrant seed industry to support the state’s essential agricultural industry
- Building world-class research and teaching facilities such as the LEED Platinum winery, brewery, and food- and milk-processing facilities
UC Davis’ combination of research, teaching, and industry outreach are proven drivers of the California economy and help solve society’s critical issues.

Opportunities for partnering industries:

- Connections to key faculty
- Faculty and researcher exchange programs
- Networking with academics and other industries
- New faculty development grants to help new faculty establish innovative research
- Student internship opportunities and engagement with students, the leaders of tomorrow
- Endowed chairs to address critical research areas and long-term viability
- Sponsored research programs
- Access to world-class research facilities
- Employee education
- Research on, and production of, clean plant materials for agricultural production

Technology under development by UC Davis engineers is helping modernize processing tomato assessment techniques. Biological systems engineering professor David Slaughter (right, with inspector Tom Ramme), has spent more than a decade developing a biosensor inspection kit that detects and quantifies mold, one of the factors that determines the quality grade in truckloads of tomatoes.

UC Davis is a talent pipeline. Its graduate students and postdoctoral fellows are the new generation of leaders for industry.

From left, California Grain and Feed Association president John Pereira, CGFA chief executive officer Chris Zanobini, and animal science professor and air quality specialist Frank Mitloehner discuss the advantages of a new campus feed mill.

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ucdaviscaes.wordpress.com

Cover photos, clockwise from top left: 1) Biological and agricultural engineering professor Shriini Upadhyaya and graduate student Vasu Udompetaikul; 2) Animal science professor Jim Murray; 3) Graduate student Taryn Kennedy; 4) Practicum student Yu Jin Choi works with toddler Jua at the Center for Child and Family Studies; 5) Student Amanjot Kaur, graduate student Kristina Wolf, plant sciences professor Truman Young, student Matthew Warren.