

News and Outreach



Plant geneticist elected to National Academy of Sciences

Pam Ronald, distinguished professor in the Department of Plant Sciences, was elected to the National Academy of Sciences, one of the highest honors a scientist can receive. As a plant pathologist and geneticist, Ronald researches genes that control disease resistance and tolerance to environmental stress in rice. In 2008, she and her colleagues received the USDA National Research Discovery Award for engineering flood-tolerant rice, which helps fight hunger around the world.



CA&ES atmospheric scientist named Packard Fellow

Da Yang, who studies the physics of intense rainstorms and their relationship to the Earth's climate, has been awarded a 2019 Packard Fellowship in Science and Engineering from the David and Lucile Packard Foundation. Yang is among 22 early-career scientists and engineers nationwide to receive the prestigious award this year. Each will be awarded \$875,000 over five years to pursue their research. Yang is CA&ES' first-ever recipient of the Packard Fellowship.



Next-level greenhouses support new solutions

Construction continues on a suite of advanced greenhouses, which will support the college's innovative research to keep plants plentiful, nutritious and resilient. The state-of-the-art greenhouses will allow researchers to precisely control temperature and light so they can customize and replicate conditions for each and every plant, all under the same roof. Five of the new facilities should be completed in February 2020, and more are on the way.



CA&ES ranked #1 in agriculture, forestry and plant and animal sciences

New rankings from the *U.S. News & World Report* place CA&ES first in the world in plant and animal sciences, while QS World University Rankings crown CA&ES first in the nation and second in the world in agriculture and forestry. The rankings consider reputation among academics, reputation among employers and the citation of academic papers. CA&ES has more than 7,500 undergraduates in 28 majors and 1,000 graduate students in 30 graduate groups and programs.



Showcasing lovely, sustainable landscapes

The future of horticulture requires a bold new perspective to meet consumers' demand for beautiful landscaping in the face of climate change. The college's California Center for Urban Horticulture is addressing that challenge with "SmartLandscape," a center on campus where stakeholders can experience the latest developments in water-conserving landscapes and irrigation technology. The center is introducing low water-use plants and installing high-tech equipment, such as thermal cameras, soil moisture sensors and drones, to help train and educate the next generation of horticulture professionals.



New UC strawberries offer disease resistance and high yield

The UC Davis Public Strawberry Breeding Program has released five new varieties that will help farmers manage diseases, control costs and produce plenty of large, robust berries using less water, fertilizer and pesticides. Two of the new varieties could increase yields by almost 30 percent. "These new varieties are intrinsically different from the ones they replace," said Professor Steve Knapp, director of the strawberry breeding program. "After three years of field tests, we're seeing higher yields, greater disease resistance and better postharvest quality." The U.S. is the world's largest producer of strawberries, and almost 90 percent of them are grown in California. About 60 percent of the state's strawberry fields are planted with varieties developed at UC Davis.



Ethiopian grain featured at UC Davis field day

Farmers, researchers and food lovers flocked to UC Davis this fall for Teff Field Day to witness the latest progress in breeding teff, a tasty, nutritious grain that is native to Ethiopia. Breeders with the UC Davis Plant Breeding Center are partnering with Zion Taddese, owner of Sacramento's Queen Sheba Restaurant, to improve the productivity and resilience of the grain often used to make flatbread. Teff is high in iron and fiber and grows especially well in mild-winter climates like those in California and Ethiopia.



Can science save citrus?

A CA&ES researcher is seeking to commercialize equipment that could be used as an early warning device to detect a deadly disease in citrus long before trees show signs of infection. Alireza Pourreza, a Cooperative Extension specialist with the Department of Biological and Agricultural Engineering, helped invent an optical sensing device that detects a buildup of starch in leaves that can be an early indication of infection from huanglongbing, or HLB. The disease has crippled the Florida citrus business and is threatening fresh citrus in California, too.



Expanding the science of cannabis

Cannabis is available for medicinal and recreational use in a majority of states, but cannabis research has long struggled to keep pace with the law. To bring more scientific understanding to the plant and its products, UC Davis researchers have partnered with a federally compliant pharmaceutical company—Biopharmaceutical Research Company or BRC—to analyze the chemical and biological profiles of cannabis. The work will help health care providers, scientific professionals, law enforcement and regulators better understand potential benefits and risks. Davis and BRC researchers will analyze legally acquired cannabis materials in BRC's labs. There will be no cannabis analyzed on the UC Davis campus or at any UC Davis-owned or leased property as part of this research.



Finding solutions to rural poverty

UC Davis will lead a new global research program to build and test ways to overcome some of the biggest challenges for lifting and keeping rural families out of poverty in developing countries. The Feed the Future Innovation Lab for Markets, Risk and Resilience received a five-year, \$30 million grant from USAID to study the root causes of poverty and food insecurity with an emphasis on recurring risks from disasters like drought, flood and conflict. "As global development efforts continue to improve, we still see humanitarian disasters that strip rural families and communities of hard-won gains," said Professor Michael Carter, the innovation lab's director. "We will provide needed evidence on how to accelerate those gains and to ensure they stick."



Gene-edited bull passes hornless trait to calves

For the past two years, CA&ES researchers have been studying six offspring of a dairy bull that was genome-edited to prevent it from growing horns. The technology could provide a pain-free alternative to dehorning, a common management practice performed to protect other cattle and human handlers from injuries. Researchers report that none of the bull's offspring developed horns and blood work and physical exams of the calves found they were all healthy.



Eight CA&ES faculty among world's most-cited researchers

Eight of the 16 UC Davis researchers named in the annual Highly Cited Researchers 2019 list are CA&ES faculty. The list identifies scientists who have published multiple papers ranking in the top 1 percent by citations in a particular field over a 10-year period. The researchers and their fields include: Eduardo Blumwald, plant sciences; Alan Crozier, nutrition; Kathryn Dewey, nutrition; Jorge Dubcovsky, plant sciences; David Mills, food science and technology; Thomas Scott, entomology and nematology; Andrew Sih, environmental science and policy; and Qi Zhang, environmental toxicology.

New Faculty

Three new Cooperative Extension specialists are joining CA&ES faculty in 2019-20. The new experts and their specialties include: **Mallika Nocco**, soil-plant-water relations; **Guiliana Marino**, orchard production systems; and **Brittney Goodrich**, sustainable agriculture management.

Glen Patrick Fox, a senior research fellow at Australia's University of Queensland, has become UC Davis' new Anheuser-Busch Endowed Professor of Malting and Brewing Science. Fox succeeds Charlie Bamforth, who held the position from 1999 until his retirement last year. As an associate professor in the Department of Food Science and Technology, Fox will teach and conduct brewing science research.

New Leadership



The college leadership team welcomes three new deans. **Professor Marcel Holyoak**, an ecologist and environmental science and policy expert, has become the associate dean for environmental sciences.



Professor Patsy Eubanks Owens, an expert in landscape architecture and environmental design, is associate dean for human and social sciences.



Christopher Glick, who previously worked in development and alumni relations at UC Berkeley, was named assistant dean of development and external relations.

Awards



Anita Oberbauer, animal science professor and CA&ES associate dean, was recently honored by the AKC Canine Health Foundation for her work dedicated to advancing the health of dogs. The Asa Mays, DVM Excellence in Canine Health Research Award is presented to a research investigator who demonstrates high achievement in identifying, characterizing and treating canine diseases and ailments.



Developmental psychologist **Amanda Guyer**, a professor in the Department of Human Ecology, is among the 2019 class of fellows of the Association for Psychological Science. Guyer investigates the neural and behavioral underpinnings of adolescent psychopathology, such as depression, anxiety and substance abuse through social, emotional and cognitive processes.



Three CA&ES faculty members—**Daniel Choe** (human ecology), **Yanhong Liu** (animal science) and **Barbara Blanco-Ulate** (plant sciences)—have been awarded 2019 fellowships from the Hellman Fellows Fund, which supports early-career faculty. Choe is examining whether low-income toddlers' and mothers' social, behavioral and physiological regulation protect against poverty-related stressors. Liu explores dietary alternatives to antibiotic growth promoters in livestock and poultry. Blanco-Ulate is examining how particular changes in genetic regulation during fruit ripening impact the ability of fruit to fight disease.