AGRICULTURAL TECHNOLOGY

The Future of Agricultural and Food Industries

AG TECH @ UC MERCED

Located in the San Joaquin Valley, UC Merced is ideally positioned to be a catalyst in the field of precision agricultural technology (AgTech), leveraging unparalleled agricultural productivity and university innovation to build emerging ag-food-tech opportunities and promote pathways to prosperity. UC Merced is a testbed for solving global issues of food, energy and water sustainability, and with industry partnerships, it addresses challenges within the region by:

- Catalyzing novel breakthroughs in agricultural science and technology through high impact research and development;
- Contributing to the future of the regional agricultural enterprise and community development through new intellectual and financial investment.
- Developing educational programs that integrate disciplinary theory with applied practice in agricultural production;
- Equipping students with knowledge to advance agricultural technology and solve real world issues; and
- Creating a platform for innovation and a culture for entrepreneurial enterprise.

"UC Merced is in the process of creating a 40-acre experimental plot adjacent to campus to research agricultural technology. The plan is to engage faculty and students in testing new technologies on Valley-dominant crops, as well as potentially provide food to community pantries and educational opportunities for area schoolchildren."

DID YOU KNOW?

250 Crops are grown in the Central Valley accounting for one-fourth of the nation's food and 40% of the nation's fruits, vegetables, nuts, seeds, grains and other foods.

FUTURE OF MACHINES

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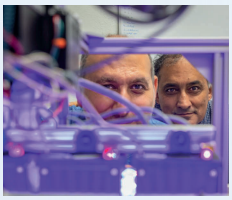
UNIVERSITY OF CALIFORNIA MERCED

AGRICULTURAL TECHNOLOGY



CITRIS & THE BANATAO INSTITUTE

The Center for Information Technology Research in the Interest of Society (CITRIS) and the Banatao Institute create information technology solutions for society's most pressing challenges.

AGFOODTECH WEEK

AgFoodTech Week promotes the use of technology and its role in helping the agriculture and food production industries become more efficient and better stewards of our planet.

CITRIS RESEARCH ON AG-FOOD-TECH EXECUTIVE ROUNDTABLE (CRAFTER)

Dedicated to innovation in food production and processing, CRAFTER is a quarterly convening of leaders who bring industry perspectives to UC Merced education and research programs.

CITRIS CORE SEED FUND AWARDS

The seed fund awards are used to catapult research into actionable results within a year, on everything from COVID response to the digital nature of modern agriculture.

SAN JOAQUIN VALLEY FOOD AND AGRICULTURE CYBERINFORMATICS TOOLS AND SCIENCE (FACTS)

This new and innovative program offers a paid 6-week summer internship to first-year and transfer students, allowing them to jumpstart their education and careers in food and agriculture.

FRESNO-MERCED FUTURE OF FOOD (F3) INNOVATION CORRIDOR

UC Merced partners with the Central Valley Community Foundation and Fresno State to develop climate-smart food and agriculture systems that provide solutions to economic and environmental challenges in the Central Valley. These solutions will result in both technology that can be exported to solve global food production challenges and increased support for local and regional food systems.

SCHOOL OF ENGINEERING

INNOVATE TO GROW (I2G)

I2G is a showcase event and design competition in which engineering students present innovative solutions, from software to harvesters, to real industry problems provided by companies, non-profits and other partners.

MECHATRONICS, EMBEDDED SYSTEMS AND AUTOMATION (MESA) LAB

MESA is a multi-disciplinary collaborative that focuses on airborne research. Students build, fly and modify unmanned aerial systems and vehicles (UAS/UAV) to perform mapping flights that monitor and analyze the progress of agriculture efforts in the region.

UNMANNED AERIAL VEHICLE (UAV) TEAM

The UAV Engineering Service Learning Team was created to support the local farming community by developing powerful yet affordable precision agricultural solutions for small scale farmers.

ENGINEERING RESEARCH CENTER IS THE INTERNET OF THINGS FOR PRECISION AGRICULTURE (IoT4Ag)

Funded by the National Science Foundation, IoT4Ag unites faculty and students from UC Merced, University of Pennsylvania, Purdue University, and University of Florida with industry and government partners to transform agriculture.

LABOR AND AUTOMATION IN CALIFORNIA AGRICULTURE: EQUITY, PRODUCTIVITY AND RESILIENCE (LACA)

In partnership with UC Agriculture and Natural Resources, UC Davis, UC Riverside, and UC Berkeley, LACA studies the impact of the use of three types of robotic systems, environmental sustainability, and labor on farm work and policy adoption.

COLLABORATIVE RESEARCH: MOBILE ROBOTIC LAB FOR IN-SITU SAMPLING AND MEASUREMENT

New technology will send robots out to gather moisture levels from leaves, saving time and water and improving accuracy of orchard management. This mobile lab is funded by the USDA and is partnered with UC Riverside.

ROBOT-ASSISTED PRECISION IRRIGATION DELIVERY (RAPID)

Funded by the USDA, RAPID focuses on sustainability and is part of the future of machines by bringing artificial intelligence (AI) and robotics to croplands.

WE ARE UC MERCED

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