

UCDAVIS
Coffee Center





UCDAVIS Coffee Center

INNOVATION UNITED WITH
INTERDISCIPLINARY RESEARCH



A Message from the Directors

We believe that a cup of coffee can spark conversations and partnerships that make a meaningful difference on a global scale. At the UC Davis Coffee Center, we are building a comprehensive program that will serve as an international hub not only for cutting-edge scientific research and education focused on coffee, but also as a repository of knowledge where anyone can learn about all aspects of coffee, from green bean storage to experimental preparation methods.

UC Davis has transformed the wine and beer industries and achieved extraordinary progress in advancing the sustainability of commodity crops—and philanthropic partnerships have been critical every step of the way, from the Robert Mondavi Institute for Wine and Food Science to the Innovation Institute for Food and Health. Now, we have a vision to do for coffee what UC Davis has already done for wine and beer.

We are pleased to present you with signature opportunities to catalyze a robust spectrum of vital pre- and post-harvest coffee research and educate a community of coffee researchers who will shape the future of coffee science and its affiliated industries.

Leveraging our university's global reputation for excellence in applied and basic research, the UC Davis Coffee Center will increase value from cherry to cup and educate the next generation of coffee scientists and industry leaders.

Thank you for considering a philanthropic gift to the Coffee Center. We look forward to continuing our conversations about how, together, we can shape the future of the coffee industry.

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The Vision

Imagine a group of prospective students touring the UC Davis Coffee Center. They begin in the Peet's Coffee Pilot Roastery, watching from behind large glass walls as a group of engineering majors experiments with a new solar-powered technique. The students are roasting beans sourced from a network of farms conducting ongoing experiments in post-harvest green coffee fermentation, washing, drying and more.

Next on their tour is a view of the Chemical Analytical Laboratory featuring state-of-the-art tools optimized to detect molecules responsible for prized flavor compounds. The La Marzocco Brewing and Espresso Laboratory down the hall helps researchers connect their chemical analyses with flavors in the cup, and the students taste the results of these studies in the bright, airy Sensory and Cupping Laboratory.

Later that day, the roastery's beans are delivered to the Toddy Innovation Hub. Inside, ordering a cup of coffee is a learning experience as visitors take in cutting-edge preparation methods from pour-overs to nitro-brews and sip the latest in coffee research while browsing interactive hallway displays that trace the different paths coffee takes around the globe and through history.

Growing consumer demand for high-quality coffee, increasing industry demand for well-prepared graduates, the challenges of climate change and the need for sustainable production practices make right now a **pivotal moment for coffee science**. Compared to the enormous economic and societal investment in coffee, however, there has been **relatively little academic investigation of the science, engineering and social aspects of this globally crucial beverage**. Demand and innovation in coffee is rapidly outpacing our understanding—and UC Davis is poised to fill these gaps in knowledge through dedicated multidisciplinary expertise.

UC Davis has a vision to be the premier source of research-based expertise in coffee science and sustainability. Our Coffee Center is the first multidisciplinary university research center to address the challenges and needs of the coffee industry through a holistic approach to coffee science and education.

With the partnership of alumni, friends and companies who share our vision, we are committed to fueling research on pressing issues that are facing the industry on a global scale and cultivating thought leaders who will set a new standard of excellence in the field.

The Coffee Center will produce the knowledge that raises global standards for how coffee is produced and processed, act as an incubator for accelerating tech transfer and serve as a magnet center for training industry leaders. We invite you to join the Coffee Center in bringing rigorous coffee science and cutting-edge technology to the world stage.





The Right Time, The Right Place

Coffee is inherently multidisciplinary, and only UC Davis has the depth and breadth of expertise to address the unresolved scientific questions about coffee and ensure that future developments in coffee science and production are sustainable for everyone, from farmers to processors to consumers.

UC Davis has a long tradition of leveraging its academic breadth, quality and diversity in partnership with industry to make research contributions that have a significant societal impact. For example, how can farmers generate new revenue sources from the 500 pounds of coffee fruit it takes to make 100 pounds of coffee beans? How can we minimize aerosol emissions during roasting or efficiently re-use water in washing processes? At the individual scale, what are the biological gut-brain connections through which coffee alters mood?

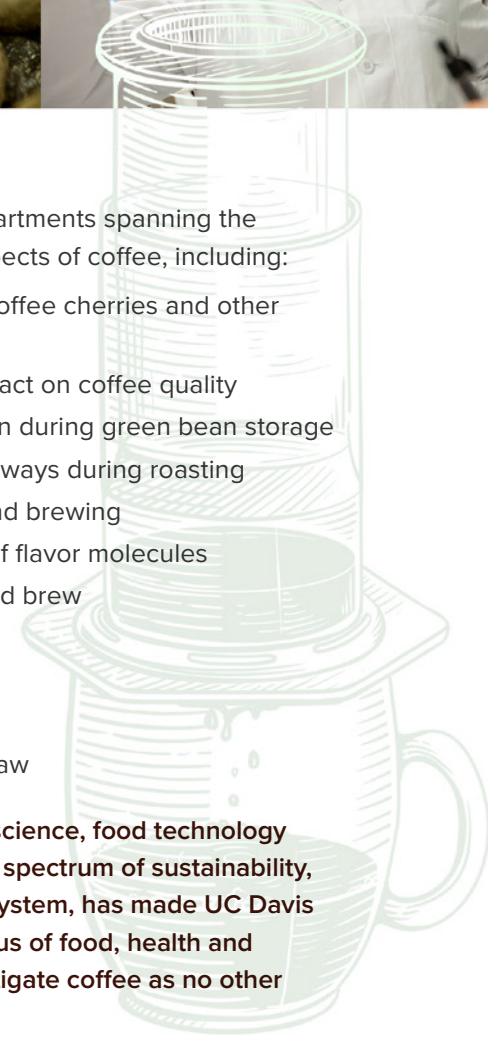
The vision for the Coffee Center was catalyzed by the incredibly popular undergraduate course, “The Design of Coffee,” developed in 2013 by chemical engineering professors Tonya Kuhl and Bill Ristenpart. At the same time, UC Davis launched a Coffee Initiative that brought together students, researchers and industry leaders from around the world. The success of these early initiatives catalyzed the vision for the Coffee Center. At a critical juncture in the coffee industry, where the opportunities for further growth and higher quality are challenged by a lack of rigorous, relevant research, interest in this research among faculty and students is greater than ever.

More than 35 faculty members from departments spanning the university are already researching all aspects of coffee, including:

- Sustainability and re-purposing of coffee cherries and other coffee by-products
- Fermentation microbiology and impact on coffee quality
- Chemical and biological degradation during green bean storage
- Chemical kinetics and reaction pathways during roasting
- Energy efficiency during roasting and brewing
- Identification and characterization of flavor molecules
- Food safety issues, especially in cold brew
- Sensory and consumer science
- Biological effects on consumption
- Nutritional effects on health
- Agricultural economics and coffee law

Our core expertise in food and sensory science, food technology and engineering, agriculture and the full spectrum of sustainability, complemented by a world-class health system, has made UC Davis a global leader in innovations at the nexus of food, health and the environment—equipping us to investigate coffee as no other institution can.

The new Coffee Center will bring together visitors, students and researchers from across the country and around the world in a dynamic space where new ideas will be explored and rapidly put into practice. The synergies forged at the Coffee Center will position UC Davis to accelerate the pace and impact of all aspects of coffee science.



An Invitation

Philanthropy will play a vital role in energizing our vision and sparking a transformation in the global coffee industry. We invite your partnership in making UC Davis a global destination where researchers and thought leaders in myriad disciplines will transform coffee science and education.

Together, we will secure a bright future for the coffee industry and advance the frontiers of knowledge in coffee science.



