CITRIS AND THE BANATAO INSTITUTE

Established in 2001, 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.

CITRIS and the Banatao Institute leverage the research strengths of University of California campuses at Berkeley, Davis, Merced and Santa Cruz, and operates within the greater ecosystem of the University and the innovative and entrepreneurial spirit of Silicon Valley. The institute was created to "shorten the pipeline" between world-class laboratory research and the development of applications, platforms, companies, and even new industries.

4 UC Campuses	**80+** Core faculty members and 300+ affiliates	**60+** Start-up companies created	**$90M** Leveraged from $4.8M in university funds

Building on existing research strengths and callidng out areas of emerging expertise in information technology, we organize our research initiatives into four focus areas:

Connected Communities, Health, People and Robots, and Sustainable Infrastructures.

CITRIS CONNECTED COMMUNITIES   CITRIS HEALTH   CITRIS PEOPLE AND ROBOTS   CITRIS SUSTAINABLE INFRASTRUCTURES

We recognize several themes that cut across all four, including necessary attention to resilience, opportunities presented by big data analytics, and advances in nanotechnology. We continue to encourage and drive projects with a sharp focus on solving specific, large-scale problems that leverage the unique cross-disciplinary and cross-campus strengths of CITRIS and the Banatao Institute.

In addition to the four main research initiatives, CITRIS and the Banatao Institute foster a strong entrepreneurial community through facilities and programs in our "invention ecosystem."

Programs include the Berkeley Marvell Nanolab, the CITRIS Foundry startup incubator, the CITRIS Invention Lab, the CITRIS Social Apps Lab, and other testbeds and user facilities.

citris-uc.org

CITRIS and the Banatao Institute Initiatives
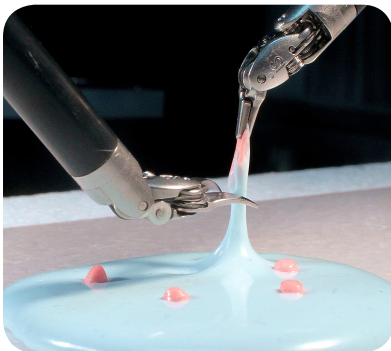
Connected Communities

The CITRIS Connected Communities Initiative focuses on the affordances of information technology to enhance communities – of learning, of practice, and of governance. The initiative embraces the development of experimental online platforms and novel hardware and software systems that connect peers to each other and to institutions in meaningful and productive ways. Building on leadership expertise in human-computer interaction, user interface design, as well as political, social and economic development, the initiative will support projects in domains including education, collaborative design, philanthropy, journalism, public health, citizen science, and ICT policy. Find out more at connected-communities.citris-uc.org.

Health

The CITRIS Health Initiative focuses on developing transformative, scalable and sustainable information technology solutions to improve health and wellness. These technology-enabled solutions can improve the quality of care and health outcomes, while reducing health care costs. Focus areas address the primary drivers affecting health, including chronic disease, aging, and formal or informal caregiving. Initiative projects build upon the principal technology solutions of telehealth; sensors; mobile apps and gaming; and data analytics. Examples of projects include innovations in electronic health records and analytics, the Transatlantic Telehealth Research Network, use of in-home sensors and feedback to reduce asthma in children, virtual reality environments for physical rehabilitation, and interactive mapping to assist wayfinding for older adults. Find out more at health.citris-uc.org.

People and Robots

Cloud Robotics, Deep Learning, Human-Centric Automation, and Bio-Inspired Robotics are primary research themes in the new CITRIS People and Robots Initiative. Robotics and automation are advancing rapidly due to innovations in sensors, devices, UAVs, networks, optimization, and machine learning, accelerated by corporate and private investment. These systems have enormous potential to reduce drudgery and improve human experience in healthcare, manufacturing, transportation, safety, and a broad range of other applications in the interests of society. Achieving this will require sensitivity to human issues, rigorous theory evaluated on standard benchmarks, and modular systems built on shared software toolkits.
Find out more at robotics.citris-uc.org.

Sustainable Infrastructures

The CITRIS Sustainable Infrastructures Initiative pursues information technology research in energy, water, and transportation as well as cyber-infrastructure as essential components of a sustainable society. Highways, electrical wires, and water channels are just a few examples of the various often-overlooked systems that underpin societal infrastructure in providing basic human needs. Information technology can weave these interrelated systems—transportation, energy, and water—into a sustainable fabric for the next generation, enabling resiliency and addressing climate change. Find out more at sustainable-infrastructures.citris-uc.org.

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CITRIS and the Banatao Institute Programs

CITRIS Membership

University of California faculty and students from more than 100 academic disciplines work with industrial and institutional partners to identify major societal challenges, then develop novel technology-based solutions to address them. Through close ties to industry, these innovations are refined, adopted, and commercialized in California and beyond.
Find out more at citris-uc.org/membership.

CITRIS Foundry

The CITRIS Foundry helps top entrepreneurs from the University of California build applied tech companies that make a significant impact on the world. The 6-12 month incubator program provides access to design, manufacturing, and business resources within a community of mentors that transforms startup teams into founders.
Find out more at CITRISFoundry.org.

CITRIS Invention Lab

The CITRIS Invention Lab supports faculty, student and community innovation by providing the knowledge, tools and support to rapidly design and prototype novel, interactive products, embedded sensing systems and integrated mobile devices. The new facility is a vital piece of the CITRIS "pipeline" running from the innovative minds of researchers, through CITRIS laboratories, and into world.
Find out more at InventionLab.org.

CITRIS Social Apps Lab

The CITRIS Social Apps Lab provides interdisciplinary collaboration to create mobile and web applications that encourage citizen participation, urban knowledge, and crowdsourcing solutions for significant social problems. Find out more at citris-uc.org/social-apps-lab.

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