

UCI

**Sustainability
Research
Inventory**

2017

FUEL GAS BYPASS

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On the Cover: The Power-to-Gas (P2G) project run by UCI's Advanced Power and Energy Program is a first-of-its-kind project in the U.S. The research project converts excess solar power generated by UCI solar photovoltaic systems into renewable hydrogen, which is then blended with natural gas and fed to the campus's Central Energy plant where it is used to produce carbon-free heat and electricity. The project will allow for more extensive research into the opportunities to use P2G as a storage medium for the power derived from the increased use of solar and wind power in utility grid networks throughout the world. Photo: Steve Zylius UCI

About the Sustainability Research Inventory

The University of California, Irvine's commitment to sustainability spans its tripartite mission of teaching, research, and public service, as well as campus operations. From 2010 through 2016, UCI consistently ranked among the nation's Top 10 "Coolest Schools," *Sierra* magazine's annual ranking of the greenest and most sustainable colleges and universities in the United States; UCI placed #1 in *Sierra* magazine's 2014 and 2015 ranking. In addition, UCI made *The Princeton Review* Green Honor Roll in 2016 for the fourth year in a row, receiving a perfect score on a survey of environmental practices, policies and academic offerings.

The UCI Sustainability Research Inventory was first created in 2012 in response to *Sierra* magazine's "Coolest Schools" survey. It was during that year that the Sierra Club partnered with the Association for the Advancement of Sustainability in Higher Education (AASHE) and adopted that organization's Sustainability Tracking Assessment and Rating System (STARS) as the basis for its rankings. STARS is a self-reporting framework for colleges and universities to measure their sustainability performance.

The STARS 2.0.1 Technical Manual focuses on the following criteria for sustainability research:

- Institution's faculty and/or staff conduct sustainability research, and the institution makes an inventory of its sustainability research publicly available; and
- Institution's academic departments (or the equivalent) include faculty and staff who conduct sustainability research.

STARS defines research as "a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge." Research activities may be basic, applied, or developmental in nature, as long as they include scholarly components. Sustainability research is defined as research that leads toward solutions that simultaneously support social wellbeing, economic prosperity, and ecological health. It includes academic research that:

- Explicitly addresses sustainability and/or furthers understanding of the interconnectedness of social, economic and environmental issues;
- Contributes directly toward solving one or more major sustainability challenge (e.g., contributes toward achieving principles outlined in the Earth Charter); and/or
- Engages community members with the aim of combining knowledge and action to achieve positive social, economic and environmental outcomes (e.g., participatory and community-based research and engaged scholarship).

The STARS Technical Manual provides that each institution may choose a specific methodology to identify sustainability research that is most appropriate given its unique circumstances. For the purpose of participating in the AASHE STARS rating program, a UCI task force adopted the following definition:

The University of California, Irvine identifies "sustainability research" as any research or creative activity that addresses the equitable endurance of natural and human systems in the present and in the future. These studies can address scientific, technological, legal, economic, ethical, governance, social, and other issues that impact the conservation of finite resources for future generations and support long-term environmental and human health.

The 2017 UCI Sustainability Research Inventory is based on the definition of sustainability research outlined in STARS 2.0.1 and includes, at minimum, all research centers, laboratories, departments, and faculty members whose research focuses on or is related to sustainability. The resulting inventory includes the names of all faculty engaged in sustainability research, along with their department affiliations, and a list of every department in which at least one faculty member engages in sustainability research.

The process outlined below was followed to specifically identify UCI faculty engaged in sustainability research.

- To develop the initial inventory, an email was sent to all faculty in April 2012, asking them to self-identify; some faculty responded not only on their own behalf but also identified other faculty members who should be included on the list. A follow-up communication was sent to deans and department chairs, asking them to encourage faculty to respond.
- Various campus websites were consulted to learn the names of faculty affiliated with centers doing research in this area.
- Titles and department affiliations were validated with the Office of Academic Personnel, and URLs for faculty profiles were obtained using the campus's online directory and departmental websites.
- In 2013, 2014, 2015, 2016 and again in 2017, copies of the previous year's sustainability research inventory were distributed to all listed faculty for review with a request for updates, additions, and deletions.
- In 2013, 2014, 2015, 2016 and again in 2017, new faculty (i.e., hired after the previous inventory) were identified and contacted, requesting them to self-identify if engaged in sustainability research.
- In 2016, the online data gathering tool Formstack was adopted and two forms were created to gather information for the inventory. The two forms were customized for either new faculty, or faculty listed in previous inventories. The existing faculty form included one extra question: if faculty would like to update their listing or not, or if they would like their listing to be removed. In 2017, a URL to the respective online forms was distributed in an initial email to the two faculty groups. The faculty responses have been incorporated.
- Prior to finalizing the 2017 Sustainability Research Inventory, the academic deans of all UCI schools were contacted to verify the inventory of faculty engaged in sustainability research and ensure that all appropriate researchers were included.
- The deans were asked to review a list of all faculty from their school who were included in the 2016 inventory, sorted by school and department, and identify any individuals who were no longer in their schools.
- The deans were also asked to nominate any new faculty, who could be characterized as doing sustainability-related research. Faculty identified by the deans were contacted and asked to provide the required information for the sustainability research inventory by completing the new online form.

The 2017 UCI Sustainability Research Inventory is publicly available on the UCI Sustainability website.

Katie Babcock
Environmental Planning & Sustainability

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Research Centers, Institutes, and Programs

Advanced Power and Energy Program

The Advanced Power and Energy Program at UCI addresses the development and deployment of efficient, environmentally sensitive, sustainable power generation and energy conversion worldwide. At the heart of this endeavor is the creation of new knowledge brought about through fundamental and applied research, and the sharing of this knowledge through education and outreach. Industry is actively engaged and vital to this effort. Built on a foundation established in 1970 with the creation of the [UCI Combustion Laboratory](#) and the 1998 dedication of the [National Fuel Cell Research Center](#), APEP is an umbrella organization that addresses the broad utilization of energy resources and the emerging nexus of electric power generation, infrastructure, transportation, water resources, and the environment.

AirUCI Institute

The Atmospheric Integrated Research at UCI (AirUCI) Institute addresses the urgent challenges we face in air and water quality, human health, climate change, as well as green technology through the integration of research, education, and outreach.

Arboretum

The UCI Arboretum is a 12.5-acre botanic garden and research facility located approximately one mile from UCI. The Arboretum features plants and communities from the California Floristic Province and also has an extensive collection of South African species. As a part of the School of Biological Sciences, the Arboretum hosts a diversity of research projects, including undergraduate and graduate students, faculty, and post-doctoral scholars. In addition to providing shade cloth growing facilities, the Arboretum is the only site on the campus where “common garden” experiments can be conducted.

Blum Center for Poverty Alleviation

The Blum Center for Poverty Alleviation was launched at UCI as part of a larger consortium of

Blum Centers across the University of California (UC) campuses that operate on the idea that a world-class university must be a force for tackling the world’s most daunting challenge – poverty. The Center’s mission is to enable a new generation of students and researchers to ask and address critical questions about economic development that are key prerequisites to devising effective and innovative approaches to alleviating contemporary poverty both locally, in Orange County, and abroad.

California Institute for Hazards Research

The California Institute for Hazards Research was founded to better coordinate natural hazards research across the UC system. Research areas for the institute include the understanding and prediction of natural hazards and the ways to reduce their impact on society. The institute will collaborate with local, state, and federal governments and organizations on natural disaster research, education, and preparedness.

California Institute for Telecommunications and Information Technology

The California Institute for Telecommunications and Information Technology - known as Calit2 - is a two-campus multidisciplinary research institute. One of four UC Gray Davis Institutes for Science and Innovation, Calit2 divisions at UCI and UC San Diego leverage academic expertise with industry experience to conduct cutting-edge research in diverse fields. The goal: to develop innovative information technology-based products and services to benefit society and ignite economic development in the region and state. The more than 200 UCI faculty and students affiliated with Calit2 are actively engaged in projects based on the digital transformation of energy, the environment, healthcare, and culture.

California Plug Load Research Center

UCI is home to the new California Plug Load Research Center, or CalPlug, a public-private partnership established in 2011 with research funding from the California Energy Commission to improve energy efficiency in the use and design of appliances and consumer electronic devices – anything that plugs into an electrical outlet.

Center for Biotechnology and Global Health Policy

The Center for Biotechnology and Global Health Policy (CBGHP) serves as a reference point for research, policy development and advocacy concerning science, biotechnology, bioethics and

healthcare in the United States and abroad. The CBGHP engages multiple stakeholder communities: scholars, policy makers, civil society, healthcare providers, the judiciary and the general public, highlighting the collaborative role and function of law in responding to state, federal and international healthcare concerns. With a mission to educate the public and serve as a catalyst for the advancement of society through research, educational outreach and advocacy, the Center engages three major initiatives: Public Health and Legal Policy; Reproductive Justice; and Biotechnology and National Security.

[Center for Complex Biological Systems](#)

The UCI Center for Complex Biological Systems promotes research and education in the area of systems biology broadly defined, which includes aspects of synthetic biology, genomics and functional genomics, computational biology, mathematical biology, biophysics, bioengineering and molecular biology. The goal is to develop a more comprehensive and accurate understanding of complex biological systems and their behaviors.

[Center for Demographic and Social Analysis](#)

Founded in 2007, the Campus Center for Demographic and Social Analysis formalizes a decade of highly productive collaboration between researchers in a dozen departments. With nearly 50 faculty affiliates and 30 associated graduate students, C-DASA is the focal point for a host of population-related research activities at UCI. Expertise in child and youth outcomes; demographic, spatial and social network methodologies; social inequality; and health and well-being make C-DASA a leading center for research on the well-being of local, national, and global populations. C-DASA provides small seed grants to encourage multi-disciplinary projects, collaborative studies, grant proposals, and research by junior faculty. Support for C-DASA comes from the Office of Research. The weekly Population, Society and Inequality Seminar Series fosters dialogue on current research, funding opportunities, analytic approaches, and new data sets.

[Center for Disaster Medical Sciences](#)

As societies become more complex and interconnected, the potential for natural disasters increases. The consequences of global climate change have exacerbated, created, or are in the process of inducing conditions that require an adaptive management response to disasters and

medical and public health needs. This includes an evolutionary approach as new challenges arise from increased fire probability to higher predicted seasonal flooding events, coastal erosion and landslides, and an increase in certain, particularly vector borne and novel emerging, infectious diseases. UCI's Center for Disaster Medical Sciences is adapting to these new challenges so that environments can be maintained in ways that correspond with a management methodology that makes resilience and continued sustainability possible. The Center is at the forefront of the emerging field of disaster medicine, offering innovative approaches to optimize disaster management through research, education, training, and public policy. Current research focuses on surge capacity and crisis care, disaster triage, earthquakes, simulation training, and disaster nomenclature.

[Center for Embedded and Cyber-Physical Systems](#)

The Center for Embedded and Cyber-Physical Systems (CECS) is a premier research organization focusing on research and educational aspects related to embedded systems. With applications ranging from green technology to information appliances, network and wireless communication, robotics, medical devices, smart homes for the elderly and disabled, automotive, rail and aviation technology sectors –they are changing the way we live. The Center is composed of more than 27 faculty members and 65 graduate students representing five Schools and eleven Departments across campus.

[Center for Environmental Biology](#)

The Center for Environmental Biology in the School of Biological Sciences was established in March 2010 to facilitate research, education, and outreach in biological science to help develop innovative new solutions to environmental problems. Biological resources are a critical component of environmental sustainability. Land, aquatic, and marine ecosystems provide many essential functions that sustain air, water, climate, food, and social systems. It is increasingly challenging to manage these resources in response to multiple stresses and environmental disturbances such as climate change, pollution, land use change, and exotic species invasions. New advances in biological research are providing methods to better understand how organisms and ecosystems influence the environment and how they respond to environmental change. Working in

partnership with ecosystem and resource managers, UCI faculty are collaborating to conduct solutions-oriented research in environmental biology, and to educate the next generation of environmental biologists and stewards of biological resources.

Center for Ethnography

Established in 2006, the Center for Ethnography has worked to develop a series of sustained and diverse theoretical and methodological conversations across disciplines, academic and applied, both to probe the state of ethnographic practice and to influence the current changes in how ethnography is conducted, reported, received, and taught. The center supports innovative collaborative ethnographic research as well as experiments on the theoretical and methodological functioning of ethnography amid contemporary cultural, social and technological transformations.

Center for Evolutionary Genetics

The application of molecular and genetic tools to evolutionary questions provides answers to some of the most fundamental questions in biology. For example, phylogenetic and phylogeographic analyses illuminate the evolutionary history of life, population genetics provides insight into current processes of gene flow and natural selection, and studies that incorporate experimental evolution and functional genetics can give us a preview of future evolutionary trajectories. The utility and power of modern genetic techniques can be applied to a diverse array of academic disciplines, including studies of aging, behavior, infectious disease, cancer, genomic evolution and the domestication of plants and animals.

Center for Global Peace and Conflict Studies

The Center for Global Peace and Conflict Studies (CGPACS) is a multi-disciplinary program founded in 1983, housed in the School of Social Sciences, and dedicated to promoting scholarly, student and public understanding of international peace and conflict. CGPACS-affiliated faculty (more than 60 faculty from 7 schools across campus), guest speakers, and affiliated graduate students work on the military/strategic, economic/environmental and cultural/normative motives, processes, and consequences of both peace and conflict. Current CGPACS programs approach the theme *Thinking past the Unthinkable: Opportunities and Challenges for Global Peace* in three related areas: *Biosecurity and the New Realities of Global Warming*; *Financial Crisis: Peace and Conflict in*

the New Normal; and *Rethinking Peace and Conflict after the Arab Spring*. *Biosecurity and the New Realities of Global Warming*, the first CGPACS sub-theme, is particularly relevant to sustainability. Global warming poses a challenge to received wisdom about peace and conflict in the world. Bringing together the considerable expertise on the UCI campus, in partnership with local, regional and international experts, CGPACS looks at the numerous challenges to peace and potential for conflict posed by peak water and peak oil.

Center for Globalization, Law, and Society

The Center for Globalization, Law and Society (GLAS) is the umbrella center for the study of international, transnational and comparative law at UCI School of Law. The Center organizes presentations, conferences and other events, and is a focal point for cutting-edge research on the development and operation of law in a globalized world. As a premier research center, it builds understanding of law's roles and constraints in addressing issues that transcend national borders, including the economy, human rights, health, and the environment. The Center brings together scholars of international, transnational and comparative law with social science researchers to build understanding and spur exchange on how to address transnational problems in a more effective and just way. UCI is one of the world's leading centers for the interdisciplinary study of law and society. The Center builds on these existing strengths by expanding connections between the law school, campus, and local, state, national, and global communities of scholars and affected constituencies.

Center for Hydrometeorology and Remote Sensing

The Center for Hydrometeorology and Remote Sensing (CHRS) brings together faculty and researchers to advance the knowledge of the water and energy cycle at scales ranging from the local watersheds to continental scales. Researchers focus on land-surface hydrologic processes, their spatial and temporal variability, and the use of remote sensing information and computer models to improve both the understanding of these processes and the ability to model them in order to predict the impacts of natural and anthropogenic variables on water resources. A primary goal of CHRS has been to develop the means to extend the benefits of federal space and weather agencies' vast

technological resources into applications that can assist hydrologists and water resource managers worldwide.

[Center for Land, Environment, and Natural Resources](#)

The Center for Land, Environment, and Natural Resources (CLEANR) is committed to the development of creative, practical, and effective conservation strategies in the fields of environmental and land use law. Through its targeted programming, publications, and advocacy, the Center provides educational opportunities and advances interdisciplinary research on environmental problems, facilitates dialogue and collaboration among diverse stakeholders, and helps shape environmental policy both locally and globally. In addition to its annual program of public conferences, seminars, guest speakers, and literature and film discussions, CLEANR's core initiative is the development of an innovative series of Workshop Roundtables. Bringing together leading policymakers, practitioners, industry representatives, activists, scientists, and scholars, CLEANR Roundtables play a critical role in the Center's ongoing efforts to identify and address gaps in existing research, cultivate strategic partnerships with conservation organizations and government authorities, and promote concrete policy action on important and emerging environmental issues. CLEANR's wide-ranging program has addressed environmental topics including climate justice, ice melt, ocean acidification, de-extinction, terrestrial habitat conservation, Arctic marine governance, marine protected areas, renewable energy development in Indian Country, open meeting laws and community participation, and Native Nation and California Coastal Commission relations in coastal conservation.

[Center for Learning in the Arts and Sciences](#)

Founded in 2001, the campus Center for Learning in the Arts and Sciences focuses on developing effective interdisciplinary methods for helping all students to understand key concepts in the arts and sciences, with a special interest in civic competence and scientific knowledge. The Center has a strong focus on investigating methods by which communities and the natural environment may be sustained and thrive.

[Center for Occupational and Environmental Health](#)

The UC Centers for Occupational and Environmental Health were established in 1979 under a mandate from the California legislature with the goal of improving research and training on injuries and occupational disease prevention in California. The University established centers in Northern and Southern California, and later the Southern center was divided into one center at UCI and the other at UCLA. The centers were established to train occupational health scientists and professionals, conduct research on occupational and environmental health issues, and provide services to the public, employer, and workers in Southern California. UCI's center houses programs in Environmental Health Sciences, Occupational and Environmental Medicine, Environmental Epidemiology, and Toxicology. Affiliated faculty and staff reside within the School of Medicine, the School of Social Ecology, and the Program in Public Health.

[Center for Research in International Studies](#)

The Center for Research on International Studies is designed to promote research connections among all faculty and students at UCI with international and global interests. Promoting synergies enhances the prospects for both addressing the global issues of today and educating the next generation of global citizens.

[Center for Research on International Immigration](#)

The Center for Research on International Immigration focuses on policy-related research concerned with immigration and immigrant settlement, including the role that immigration plays in affecting population dynamics and the economy. Broadly speaking, the Center's research involves projects on what kinds of immigrants come, what happens to them when they are here, and what effects they have on America.

[Center for Research in Sustainability, Collapse-preparedness and Information Technology \(RiSCIT\)](#)

In his keynote address at a 2012 NSF-funded National Academies symposium, John Holdren, then Director of the US Office of Science and Technology Policy and chief science advisor to the nation, spoke at length about climate change, and described a need for both mitigation – the reduction of the magnitude of change – and adaptation – the mobilization of responses to change. Holdren advocated for the development of technology that focuses on "meeting human needs

[and] wants at lower cost with reduced use of material resources [and] reduced environmental impact." The Center for Research in Sustainability, Collapse-Preparedness & Information Technology (RiSCIT) seeks to engage with this challenge, in part due to the potential for "greening through IT" – that is, making civilizations more environmentally sustainable via IT interventions and in part as means of preparing for civilizational collapse. The goal of RiSCIT is to provide a central focus for research on the role of informatics and computing in supporting the transition to sustainability and addressing the potential to prepare for civilization-scale collapse. Since 2015, RiSCIT has hosted LIMITS—the annual Workshop on Computing within Limits—to foster discussion on the impact of present and future ecological, material, energetic, and societal limits on computing, and also as a means of growing the community of researchers exploring such issues.

[Center for Solar Energy](#)

The Center for Solar Energy was established in 2007 to pioneer research in solar energy conversion. Presently, solar energy provides an insignificant fraction of the United States' overall energy needs, and fundamental scientific breakthroughs will be required to change this state of affairs. The mission of the Center for Solar Energy (CfSE) is to study the fundamental scientific principles of solar energy conversion and to educate scientists, students, and the general public about harnessing our most abundant energy resource.

[Center for the Study of Democracy](#)

The Center for the Study of Democracy sponsors research and education aimed at improving the democratic process in the United States and expanding democracy around the world. The Center's research activities focus on developing a better understanding of the conditions fostering democratic development and democratic processes in the United States and internationally.

[Center for Trauma and Injury Prevention Research](#)

Since its inception in 2004, UCI School of Medicine's Center for Trauma and Injury Prevention Research has demonstrated its commitment to the reduction of the associated personal and societal burden of traumatic injury by conducting multidisciplinary research, translating research into policy and practice, serving as a regional and national resource, and working in close partnership with communities. This is part of

the University's institutional and cultural commitment to sustainability as trauma injuries increase through climate change challenges and the prevention of injury becomes a focused societal need.

[Center for Unconventional Security Affairs](#)

Global environmental change, technological innovation, economic globalization, and the spread of democracy have dramatically transformed the security landscape. While the incidence of war has declined, other, unconventional threats have moved onto the agenda, such as climate change, cybercrime and complex disasters. These threats to human security and national security have become as important as the traditional threat of war. Security today depends as much on investments into promoting sustainability, alleviating poverty and facilitating cooperation as into intelligence and defense. The Center for Unconventional Security Affairs (CUSA) was established in 2003. Its Unconventional Security Research Group studies and develops solutions to unconventional security challenges through interdisciplinary field research. CUSA's Transformational Media Lab explores the use of media in communicating these challenges and moving people from concern to action. The eARTH Studio provides a platform for artists who create art informed by these issues. CUSA also focuses on supporting leaders in the business, government and non-profit communities who are trying to address these challenges, and on educating the next generation of leaders by integrating students into all aspects of the Center's activities. In 2010, the Center launched a Sustainability Seminar Series that continues today.

[Center in Law, Society and Culture](#)

The Center in Law, Society and Culture brings together UCI faculty and graduate students who share interests in law, society, and culture, broadly defined. Issues of interest to center affiliates include race, law and justice; law and literature; critical legal theory; legal consciousness; law and space; legal philosophy, culture and policing; the interaction of local and international legal cultures; globalization; migration; knowledge production; law, science, and society; and law and history.

[Community Knowledge Project](#)

The Community Knowledge Project is a practice that explicitly addresses the systems and structures of inequality in which all humans and non-humans live. The Community Knowledge

Project is inspired by the Environmental Justice Movements around the globe where expertise itself is challenged and redefined. Coburn (2006) nicely details the promise of local knowledge for a new generation of scholars that seek a connection rather than domination or mastery over their subjects/objects of interest. His is an introduction and a doorway into a situated knowledge making practice that includes, on equal footing, expert and local knowledge makers. Neither takes an upper hand for Coburn. Rather, expert and local knowledge practices share many qualities that make the dichotomy only useful as a mnemonic, not as epistemological or ontological truism. Because community health issues are inherently multidimensional, students from all departments and backgrounds are encouraged to become involved.

[Community Outreach Partnership Center](#)

Initiated in 2001, the Community Outreach Partnership Center (COPC) builds bridges between UCI and local communities. The Center harnesses university resources – faculty, student, and institutional – to help address key regional challenges. COPC projects are guided by a commitment to "community engagement." The Center uses applied research, training and instruction, and outreach to help build and sustain healthy communities.

[Greenhouse](#)

The UCI Greenhouse is a 9,000-square-foot growth facility that supports teaching and research needs for the School of Biological Sciences. The Greenhouse is divided into 15 growth areas that are individually programmable for temperature. Greenhouse Staff provides watering, pest management, and basic maintenance for plants used in research and teaching. Additional facilities include common-use lab space, a lath house adjacent to the Greenhouse for plants requiring ambient conditions, an autoclave for soil sterilization, and storage space for greenhouse supplies, which are provided by investigators. Limited environmental growth chamber space is also available.

[Health Policy Research Institute](#)

UCI's Health Policy Research Institute is a multidisciplinary research unit that conducts health services research, comparative effectiveness and quality-of-care research. The Institute focuses on the assessment and improvement of the quality of health care, especially care for chronic diseases,

with an emphasis on understanding and reducing disparities in health and healthcare for racial/ethnic minorities and vulnerable populations.

[Institute of Transportation Studies](#)

The Institute of Transportation Studies (ITS) – a UC organized research unit with branches at Irvine, Davis, Berkeley, and Los Angeles – was established to foster research, education, and training in the field of transportation. Research at ITS covers a broad spectrum of transportation issues spanning the fields of engineering, planning, economics, computer science and public health. From 2011 through 2016, ITS-Irvine served as headquarters for a major six-campus Multicampus Research Program and Initiative funded by the UC Office of the President on Sustainable Transport: Technology, Mobility and Infrastructure. In 2017, ITS-Irvine is initiating a major, multi-year research effort funded by the California Energy Commission to study sustainable freight solutions for the state. Other currently funded research projects at Irvine focus upon: intelligent transportation systems, particularly advanced transportation management systems; analysis and simulation of urban traffic networks; transportation system operations and control; travel demand forecasting for both person and freight transportation; analysis of complex travel behavior; transportation/land use interactions, particularly those which encourage alternative modes of travel; planning and evaluation of advanced public transit systems; transportation pricing and regulation; energy and environmental issues, particularly demand for alternative fuels and assessing the greenhouse gas and air quality impacts of traffic and truck operations and associated pollution mitigation strategies; effect of land-use on transportation demand; and the growth of automobile use in the U.S. and Western Europe.

[National Fuel Cell Research Center](#)

The NFCRC was dedicated in 1998 by the U.S. Department of Energy and the California Energy Commission and is affiliated with the Advanced Power and Energy Program at UCI. The goal of the NFCRC is to facilitate and accelerate the development and deployment of fuel cell technology and fuel cell systems; promote strategic alliances to address the market challenges associated with the installation and integration of fuel cell systems; and to educate and develop resources for the various stakeholders in the fuel cell community. The

NFCRC addresses the role of *stationary* fuel cell systems for both distributed and central plant generation of electricity, back-up power, powering laptops and cell phones, co-generating heat and cooling, and tri-generating hydrogen as a transportation and an industrial feedstock. The NFCRC addresses the role of *mobile* fuel cell systems for powering automobiles, trucks, buses, locomotives, ships, and long-distance trucks, and deploys fuel cell vehicles to address hydrogen generation, fueling, and public preparation for a future hydrogen economy.

[Newkirk Center for Science and Society](#)

The Newkirk Center for Science and Society promotes research in the natural and social sciences to enhance the quality of life. It finds ways to develop and share research knowledge with the public and policy makers so they can make informed decisions on vital policy issues on law, education, environment, health care, crime, and public infrastructure. Among these are the Center's "Toward a Sustainable 21st Century" seminar series, begun in 2007, and the Summer Seminar Series: "Empowering Sustainability on Earth," launched in July 2011. Emphasizing health, the environment, community development, education, and law, the Center embraces the following principles in its operations: enabling scientists to connect more easily with policy makers, practitioners, and citizens; assisting the community to connect to the development of science intended to serve its needs; harnessing the multidisciplinary capacities of UCI and the UC system-wide.

[Coastal and Marine Science](#)

The oceans are of vast importance, and marine species and ecosystems are at risk. Human impacts on marine habitats are greatest in areas of high population density, including the Los Angeles metropolitan area, which is adjacent to a productive and diverse stretch of coastline. Researchers at UCI are tackling many of the pressing environmental concerns that impact oceans at both local and global scales, including the effects of pollution, climate change, marine debris, invasive species, nutrient loading, and biodiversity loss. Locally, UCI faculty are at the forefront of coastal ocean monitoring and are leading restoration and conservation efforts in Orange County.

[Social Ecology Research Center](#)

Affiliated with the School of Social Ecology, the Social Ecology Research Center promotes research that links natural and socio-cultural domains, transcending individual disciplines and bridging critique and action. Current research projects include Social Ecology of Resilience and Sustainability, Ecology and the Neighborhood, and Climate Narratives.

[UCI Aquaponics](#)

UCI Aquaponics is a student-led project which features the symbiotic cultivation of plants and aquatic animals in a balanced recirculating environment. Our primary goal is to demonstrate that aquaponics is an economically feasible and environmentally sustainable method for the local generation of food in Irvine, CA. Accordingly, our research goals are to define the parameters which optimize aquaponics system efficiency, sustainability, and economy in a university context. With aquaponics, campus food waste promises to be diverted into fish food, which in turn fertilizes the growth of edible vegetables. This closed loop method simultaneously conserves significant water resources while much of California struggles in extreme drought. Finally, UC Irvine Aquaponics is poised to provide structured, experiential learning for UCI students, as well as local elementary, middle, and high school students.

[UCI Combustion Laboratory](#)

The UCI Combustion Laboratory, (UCICL) is one of the components of the [Advanced Power & Energy Program \(APEP\)](#) at UCI. The UCICL is addressing the challenges associated with the combustion of alternative and fossil fuels by developing and applying (1) advanced experimental capabilities including specialized test rigs, laser and conventional diagnostics; (2) numerical tools; and (3) statistically designed testing to problems of practical relevance. These tools are necessary to unravel the complex, multidisciplinary nature of combustion that heretofore has eluded understanding. A fundamental understanding of the interaction between turbulent mixing and chemical reaction is required if practical combustion systems are to be improved beyond the current state of the art.

[UCI Metropolitan Futures Initiative](#)

The Metropolitan Futures Initiative aims to develop an improved understanding of communities and their potential for integrative and collaborative

planning and action to ensure a bright future for the region. It approaches these goals by bringing together an interdisciplinary research team along with the insights and techniques of “big data” research. By combining various large longitudinal and spatial data sources, and then employing cutting edge statistical analyses, the goal is to come to a better understanding of how the various dimensions of the social ecology of a region move together to produce the outcomes observed within our neighborhoods.

The Metropolitan Futures Initiative is interested in understanding how various regions operate, and in understanding differences across regions. Nonetheless, we pay particular attention to Orange County and its location within the larger Southern California area. The Metropolitan Futures Initiative is a commitment to build communities that are economically vibrant, environmentally sustainable, and socially just by partnering Social Ecology’s world class, boundary-crossing scholarship with expertise throughout Southern California.

UCI OCEANS

Oceans are important for the Earth System but are vulnerable to human impacts such as climate change, overfishing, and pollution. Across campus, researchers at UCI are tackling pressing marine and on-shore environmental concerns and investigating questions at both global and local scales. This Initiative will offer a fresh take on ocean research and education by embracing a vision and approach that spans the natural sciences, engineering, social science, arts, education, law, and governance and is thus distinct from other marine research institutions. With the unique collection of interdisciplinary research approaches and strong community support, UCI OCEANS is poised to become the flagship organization for urban ocean studies, while simultaneously contributing to high impact global-scale ocean research. Twenty-nine faculty from eight schools are part of this Initiative.

UCI Polycultures

The Sustainable Polyculture project at UCI aims to help people in Southern California design sustainable polycultures for personal use. A sustainable polyculture is a mutually dependent group of perennial and self-seeding annual plants designed to thrive with little or no external inputs and provide significant amounts of human resources.

The Sustainable Polyculture project is working with local community members and Agroecology researchers to identify what novice growers need to design and grow sustainable polycultures for personal use. In this pursuit, the Sustainable Polycultures project has engaged community members in building a sustainable polyculture at the demonstration site at the UCI Arboretum.

UCI Salton Sea Initiative

The Salton Sea Initiative is an interdisciplinary collaboration based at UCI and working to promote understanding about the sustainability challenges facing the Salton Sea region. This work takes many forms: facilitation and collaboration on various research efforts in the natural and social sciences; teaching, curriculum development, and empowering our students to teach; and working with regional partners to create avenues for public discourse about the future of the Salton Sea. The Salton Sea Initiative is one of the initiatives sponsored by UCI’s Office of the Provost and Executive Vice Chancellor through the [Office of Academic Initiatives](#).

UCI Sustainability Initiative

The Sustainability Initiative provides a platform for interdisciplinary scholarship on the critical climate, environment, and resource issues confronting society. The Initiative aims to infuse sustainability across UCI empowering students and faculty with the rich institutional history of impactful research and promotes collaborations with diverse communities on and off campus in developing solutions to challenges affecting California and the globe. Community-engaged scholarship and practice are integral to UCI’s excellence as a research university and underlie how the university creates knowledge to serve society. Specific goals of the Sustainability Initiative include: transform sustainability education at UCI; embrace climate neutrality as an institution; enable skills sharing and capacity building for transformation; communicate the legacy of UCI’s sustainability scholarship and practice; facilitate connection and resource sharing on and off campus; incubate new projects by faculty, staff, and student leaders; and reinforce campus efforts to inspire, enable, and evaluate public impact through interschool research, education, and engagement. The Sustainability Initiative is one of the initiatives sponsored by UCI’s Office of the Provost and Executive Vice Chancellor through the [Office of Academic Initiatives](#).

UCI Water Energy Nexus Center

The UCI Water Energy Nexus Center (UCI WEX Center) promotes comprehensive and trans-disciplinary approaches to water efficiency, energy efficiency, and greenhouse gas reduction in an urban environment with a diverse, rapidly growing population. The UCI WEX Center's mission is to advance the understanding of the water environment and the energy-water nexus for urban areas and their surroundings in order to assist people and institutions in their efforts to promote health, enhance the efficient use of water and energy resources, and protect environmental values. UCI WEX Center aims to promote excellence in urban water research and education at UCI by facilitating the integration of research in basic and applied science, engineering, and social sciences. It also aims to bridge with entities outside academia to advance societal and industrial applications of fundamental and applies research to inform and aid policy makers and to educate the public on urban water sustainability in Orange County, California, the United States and beyond.

UC Network for Experimental Research on Evolution

NERE, the Network for Experimental Research on Evolution, is a UC Multicampus Research Program funded and administered through the UC Office of the President and its constituent UC campuses. NERE (pronounced "near") supports collaboration, communication, and graduate education concerned with research on biological evolution. A number of UCI researchers are affiliated with NERE.

UC Research and Education in Green Materials Program

The goal of the Research and Education in Green Materials program is to transform the research education of a new cadre of graduate students to approach materials science, toxicology, environmental engineering and technologies, and the social sciences through selective engagement collaboratively to transform what some call "our current toxic material society" into a "green material society." California, as the world's sixth largest economy, is both a source and sink for consumer products manufactured with material components that remain poorly characterized with respect to potential impacts on human health and environmental quality. The program is designed not only to pinpoint toxic risks but also to develop effective strategies for managing the risks while

paying attention to consumer preferences, the bottom line for manufacturers, and the role of government policies in protecting the public.

Water UCI

The interschool Water UCI Initiative fosters collaboration in the fields of fundamental and applied water science, technology, engineering, management and policy. Water UCI team tackles "grand challenges" – high-consequence, high-uncertainty problems that entail unprecedented mitigation costs, have the potential to generate social conflict, and may be approaching irreversibility. California is used as both a point of departure to address global water issues and a benchmark for applying innovations in areas such as water resource monitoring, groundwater management, wastewater recycling and demand-side management. Water UCI activities focus on interdisciplinary research, curriculum development, and community outreach events. Water UCI is one of the initiatives sponsored by UCI's Office of the Provost and Executive Vice Chancellor through the [Office of Academic Initiatives](#).

W. M. Keck Carbon Cycle Accelerator Mass Spectrometry Laboratory

The Keck Carbon Cycle accelerator mass spectrometry (KCCAMS) facility was set up to use carbon isotopic techniques, primarily AMS, to advance understanding of the carbon cycle and its linkages with climate.

Field Research – UC Natural Reserve System

UC Natural Reserve System

The UC Natural Reserve System contributes to the understanding and wise stewardship of the Earth and its natural systems by supporting university-level teaching, research, and public service at protected natural areas throughout California. *Sites administered by UCI include:*

Burns Piñon Ridge Reserve

The Burns Piñon Ridge Reserve lies at the westernmost edge of the Mojave Desert, where Joshua trees give way to the piñons and junipers of higher elevations. To the west, the peaks of the San Bernardino Mountains cast a rain-shadow over this boulder-strewn land. Animal communities from the desert and the mountains cross paths at the Burns Reserve. A three-hour drive from UCI and two hours from UC Riverside, the 121-hectares (303 acres) contained within this site are located in the Morongo Basin, just north of the town of Yucca Valley.

San Joaquin Marsh Reserve

The San Joaquin Marsh Reserve represents one of the last remnants of wetlands that once covered much of Orange County's flood plain. Located in an ancient river-cut channel at the head of Newport Bay, the reserve supports a variety of wetland habitats, including marshlands, shallow ponds, and channels confined by earthen dikes. Dry upland habitats with a remnant coastal sage scrub community rise on the margins of the reserve. The marsh is a critical stopping place for 100 migratory bird species using the Pacific Flyway. Altogether, more than 200 bird species (20 nesting) have been sighted in the reserve, including two resident endangered bird species: the light-footed clapper rail and the California least tern. The marsh is located within a ten-minute walk from UCI, making it convenient for day use by faculty and numerous students.

Steele Burnand Anza-Borrego Research Center

At 615,000 acres, Anza-Borrego Desert State Park is the largest state park in California and one of the largest desert protected areas in the west. Located in the eastern half of San Diego County, the park extends roughly 25 miles east to west and 50 miles north to south. The Steele Burnand Anza-Borrego Desert Research Center, housed in a former country club, is located adjacent to the park in the town of Borrego Springs. An agreement with Anza-Borrego Desert State Park and the Anza-Borrego Foundation makes the park available to reserve users. Anza-Borrego Desert State Park encompasses a wide variety of habitats. High elevation species such as white fir grow on several mountaintops. Sonoran Desert stalwarts such as ocotillo, palo verde, fishhook cacti, and creosote are found in hotter, lower elevation areas. A perennial stream, Coyote Creek, offers rare riparian habitat within this arid region. Thirty fan palm oases, piñon pine and juniper forests, and live oak woodlands. The eroded formations of the Borrego and Carrizo Badlands are found in the eastern portion of the park.

As of July 2012, the Reserve now also includes the [White Mountain Research Center](#), hosted by the Institute of the Environment and Sustainability at UC Los Angeles. WMRC includes a number of field stations: the Owens Valley base station near the town of Bishop, a montane station at Crooked Creek, an alpine state at Barcroft, and the summit lab. The combination of facilities, geologic exposure, steep topography, and high elevation make the station uniquely valuable for scientific study and education. Researchers from UCI's Advanced Power and Energy Program were instrumental in upgrading the site's energy infrastructure in recent years.

Field Research Partnerships

Crystal Cove State Park and Marine Research Facility

UCI has partnered with Crystal Cove State Park and the Crystal Cove Alliance to provide the opportunity for UCI faculty and students to undertake small-scale and low-impact scientific research in the Park by utilizing the Park and Marine Research Facility for approved projects. The facility has been restored and renovated for modern scientific research, while simultaneously preserving the structure, design and look of an historic cottage. The Park and Marine Research Facility supports low-impact scientific study that furthers understanding of Crystal Cove's natural, cultural, and historical resources.

UCI Ecological Preserve

The UCI Ecological Preserve is a 60-acre site on the southern edge of the campus, located adjacent to University Hills, the Irvine Research Park, and the San Joaquin Transportation Corridor. It is part of the main campus and is managed by UCI's Office of Natural Reserves for the School of Biological Sciences. The Preserve is enrolled in the Nature Reserve of Orange County. The Preserve is used for research and is a cherished and scenic campus asset. Its panoramic view encompasses much of the campus, with the Pacific Ocean and Catalina Island as a westerly backdrop. The Ecological Preserve has seen extensive research efforts over the years, including many publications, theses, and surveys of plants and animals ranging from bobcats, California gnatcatchers, and cactus wrens to research focused upon restoration ecology and plant-animal interactions.

UCI Field Laboratory for Energy Research

UCI is combining novel strategies for energy efficiency, energy management, and self-generation with research that positions the campus as one of the nation's most advanced field laboratories for community energy generation and utilization, and microgrid technology. The partnership is led by the UCI Advanced Power and Energy Program in a novel collaboration with UCI

Facilities Management, and campus Environmental Planning and Sustainability. Partners include Siemens, MelRoK, Toyota, ETAP, and UCI's Transportation and Distribution Services. As a result of previous and ongoing investments in multiple photovoltaic installations and energy research initiatives, the UCI Field Laboratory provides a unique combination of key renewable, distributed energy, and smart demand response resources for the study of photovoltaic deployment and integration into the electric grid. The Field Laboratory also enables the investigation of controlled metrics in the context of the emerging smart grid paradigm. Included are natural gas-powered distributed generators, energy storage devices, photovoltaic power systems, a large thermal storage tank, electric vehicles, and smart demand response and dispatchable power capabilities. Overlaying the hardware is a sophisticated array of circuit, energy, and transportation steady-state and dynamic simulation and computer models.

Fuel Cell Vehicle Deployment and Hydrogen Infrastructure

The National Fuel Cell Research Center (NFCRC) hosts the world's largest university program in the deployment of fuel cell vehicles and hydrogen fueling stations through partnerships with automakers and hydrogen providers. The NFCRC fuel cell vehicle (FCV) deployment program has been ongoing since 2002 and currently includes 17 Toyota FCVs. Through the program, fuel cell vehicles are deployed to local political and business leaders, including members of the Irvine City Council, so that they can gain experience and understanding of the operation and refueling of this next-generation vehicle. The NFCRC also manages two hydrogen fueling stations in partnership with Air Products. The UCI hydrogen station was the first 24-hour publicly accessible hydrogen station in the United States, and the Orange County Sanitation District hydrogen station is the first in the world to produce bio-hydrogen on site. Orange County, and in particular Irvine, has become a hub for the early deployment of fuel cell vehicles, which several automakers plan to retail in 2015. Through a strategic alliance with automakers including General Motors, Toyota, Honda, Nissan, Hyundai, and Mercedes and energy companies Air Products and Linde, the NFCRC is engaged in systematic planning for the deployment of hydrogen fueling infrastructure.

[Irvine Smart Grid Demonstration Project](#)

UCI is host to one of the country's largest smart grid demonstration programs, the Irvine Smart Grid Demonstration (ISGD), sponsored by the U.S. Department of Energy ISGD under the leadership of Southern California Edison. ISGD is demonstrating and evaluating future smart grid technologies through a public-private partnership. The Advanced Power and Energy Program is a research partner in many aspects of the project, manager of the electric vehicle deployment to 30 homes engaged in the project, and coordinator with UCI Facilities Management, Environmental Planning and Sustainability, and Transportation and Distribution Services with various dimensions of the project. ISGD spans from the western grid, to the substation and distribution circuit level, and to individual homes that have been outfitted with smart appliances, solar panels, electric vehicles, smart chargers, battery storage, and various energy efficiency measures to explore the zero-net energy home of the future.

[Tri-Generation from Biogas](#)

The National Fuel Cell Research Center (NFCRC) is demonstrating the world's first high-temperature fuel cell tri-generation system at the Orange County Sanitation District through a public/private partnership. The system, which is fueled on biogas derived from wastewater treatment, simultaneously produces electricity, heat, and hydrogen fuel. The installation is also coupled with a hydrogen fueling dispenser, which is today used to refuel fuel cell vehicles with bio-hydrogen. Tri-generation technology was first conceived at the NFCRC in 2002 and then developed further through research and collaboration with Air Products and Chemicals, Inc. and FuelCell Energy, Inc., eventually leading to the current demonstration at the Orange County Sanitation District. The partners involved in the program include Air Products and Chemicals, FuelCell Energy, the U.S. Department of Energy, the California Air Resources Board, South Coast Air Quality Management District, and the Southern California Gas Company.

[Nature Reserve of Orange County](#)

UCI is a founding member and serves a leadership role in the Nature Reserve of Orange

County is a 503(c)(3) nonprofit corporation that manages the Natural Community Conservation Plan/Habitat Conservation Plan for the central and coastal subregion of Orange County, California. The Nature Reserve coordinates the land-management activities of public and private landowners within the 37,000-acre reserve system, conducts wildlife and habitat research and monitoring, and restores disturbed habitats.

[Organization for Tropical Studies](#)

UCI is a founding member of the Organization for Tropical Studies (OTS), headquartered at Duke University, through which more than 300 scientists from 25 countries work at field sites in Costa Rica and Africa each year. OTS is a non-profit consortium that has grown to include 63 universities and research institutions from the United States, Latin America and Australia. OTS was founded to provide leadership in education, research and the responsible use of natural resources in the tropics. To address this mission, OTS conducts graduate and undergraduate education, facilitates research, participates in tropical forest conservation, maintains three biological stations in Costa Rica and conducts environmental education programs.

[ZEV•NET at the Irvine Transportation Center](#)

The Advanced Power and Energy Program operates a novel shared car program of electric vehicles called ZEV•NET for "Zero Emission Vehicle Network Enabled Transport," in partnership with Toyota and the City of Irvine. ZEV•NET provides battery electric transportation for the critical "last mile" of commutes, from the Irvine train station to offices and local meetings. Since its inception in 2001, seven businesses in the City of Irvine have participated in the ZEV•NET car sharing program, providing employees access to convenient, zero emission transportation. The innovative transportation model provides multiple benefits to the community such as reducing road congestion by enabling more train commuting and replacing short trips made by gasoline vehicles during the work day – trips that produce the most harmful "start-up" emissions – with zero emission BEV trips.

Schools, Departments, and Programs in which Sustainability Research Takes Place

Claire Trevor School of the Arts

- Studio Art

Francisco J. Ayala School of Biological Sciences

- Developmental and Cell Biology
- Ecology and Evolutionary Biology

The Paul Merage School of Business

School of Education

The Henry Samueli School of Engineering

- Biomedical Engineering
- Chemical Engineering and Materials Science
- Civil and Environmental Engineering
- Electrical Engineering and Computer Science
- Mechanical and Aerospace Engineering

College of Health Sciences

- Program in Public Health

School of Humanities

- Comparative Literature
- History
- Art History

Donald Bren School of Information and Computer Sciences

- Computer Science
- Informatics
- Statistics

School of Law

School of Medicine

- Biological Chemistry
- Community & Environmental Medicine
- Emergency Medicine
- Epidemiology
- Internal Medicine
- Occupational and Environmental Medicine
- Psychiatry and Human Behavior

School of Physical Sciences

- Chemistry
- Earth System Science
- Mathematics
- Physics and Astronomy

School of Social Ecology

- Criminology, Law and Society
- Planning, Policy and Design

School of Social Sciences

- Anthropology
- Cognitive Sciences
- Economics
- Political Science
- Sociology

Faculty Engaged in Sustainability Research (Listed by Primary School/Department/ College Affiliation)

- Nancy Tyler Burley
- Peter A. Bowler
- Richard Symanski
- Sergio Rasmann
- Stephen G. Weller
- Steven A. Frank
- Steven D. Allison
- Timothy J. Bradley
- Travis Huxman

Claire Trevor School of the Arts

- Studio Art
 - Jesse Colin Jackson

Francisco J. Ayala School of Biological Sciences

- Developmental and Cell Biology
 - Bruce Blumberg
 - R. Michael Mulligan
- Ecology and Evolutionary Biology
 - Adriana D. Briscoe
 - Albert F. Bennett
 - Ann K. Sakai
 - Anthony D. Long
 - Brad Hughes
 - Brandon S. Gaut
 - Cascade Sorte
 - Catherine “Kate” Loudon
 - Celia Faiola
 - Diane Campbell
 - Dominik Wodarz
 - Donovan German
 - Eman “Manny” Azizi
 - F. Lynn Carpenter
 - Francisco J. Ayala
 - James W. Hicks
 - Jennifer Martiny
 - Jessica Pratt
 - John C. Avise
 - Jose Ranz
 - Kailen A. Mooney
 - Kathleen K. Treseder
 - Laurence D. Mueller
 - Matt McHenry
 - Matthew Bracken
 - Michael R. Rose
 - Michael T. Clegg

The Paul Merage School of Business

- Alladi Venkatesh
- Christopher W. Bauman
- Devin Shanthikumar
- L. Robin Keller
- Kerry Vandell
- Luyi Gui

School of Education

- Liane Brouillette

The Henry Samueli School of Engineering

- Biomedical Engineering
 - Abraham P. Lee
- Chemical Engineering and Materials Science
 - Albert F. Yee
 - Ali Mohraz
 - Allon Hochbaum
 - Daniel R. Mumm
 - Julie M. Schoenung
 - Martha L. Mecartney
 - Nancy Da Silva
- Civil and Environmental Engineering
 - Ayman S. Mosallam
 - Betty H. Olson
 - Brett Sanders
 - C. Sunny Jiang
 - Diego Rosso
 - Jan Scherfig
 - Jasper Vrugt
 - Jean-Daniel Saphores
 - Kristen A. Davis
 - Kuo-lin Hsu
 - R. Jayakrishnan
 - Soroosh Sorooshian
 - Stanley Grant
 - Stephen G. Ritchie

- Wenlong Jin
 - Wilfred R. Recker
 - William J. Cooper
- Electrical Engineering and Computer Science
 - Ahmed Eltawil
 - Fadi Kurdahi
 - G.P. Li
 - Kumar Wickramasinghe
 - Mohammad Abdullah Al Faruque
- Mechanical and Aerospace Engineering
 - Derek Dunn-Rankin
 - Donald Dabdub
 - Faryar Jabbari
 - Jack Brouwer
 - Larry Muzio
 - Scott Samuelson
 - Vince McDonell
 - Yun Wang

College of Health Sciences

- Program in Public Health
 - Andrew Noymer
 - Jun Wu
 - Lisa Grant Ludwig
 - Oladele Ogunseitan
 - Scott Bartell
 - Sharon Stern
 - Suellen Hopfer
 - Veronica Vieira

School of Humanities

- Comparative Literature
 - Gabriele Schwab
- East Asian Languages and Literatures
 - Margherita Long
- History
 - David Iglar
 - Kristina Shull
 - Patricia Seed
- Art History
 - James Nisbet

Donald Bren School of Information and Computer Sciences

- Computer Science
 - Eric D. Mjolsness
 - Marco Levorato
 - Nalini Vankatasubramanian
 - Patrick J. “Padhraic” Smyth

- Sharad Mehrotra
 - Wayne B. Hayes
- Informatics
 - Bill Tomlinson
 - Bonnie Nardi
 - Cristina Lopes
 - Debra J. Richardson
 - Joshua Tanenbaum
 - Melissa Mazmanian
- Statistics
 - Hal Stern
 - Yaming Yu

School of Law

- Alejandro E. Camacho
- Benjamin van Rooij
- Carrie Menkel-Meadow
- Gregory Shaffer
- Joseph DiMento
- Michael Robinson-Dorn
- Michele Goodwin
- Robert Solomon
- Seth Davis

School of Medicine

- Biological Chemistry
 - Suzanne Sandmeyer
- Community & Environmental Medicine
 - Ronald C. Shank
- Emergency Medicine
 - Bharath Chakravarthy
 - Carl H. Schultz
 - Christopher Eric McCoy
 - Craig L. Anderson
 - J. Christian Fox
 - Kristi L. Koenig
 - Merritt Schreiber
 - Shahram Lotfipour
 - Wirachin Ying Hoonpongsimanont
- Epidemiology
 - Ralph J. Delfino
 - Rufus Edwards
- Internal Medicine
 - Alpesh Amin
- Medicine
 - BongKyoo Choi
 - Dean Baker
 - M. Joseph Fedoruk
 - Masashi Kitazawa
 - Michael T. Kleinman
 - Peter L. Schnall

- Robert R. Phalen
 - Stephen C. Bondy
 - Ulrike Luderer
- Psychiatry and Human Behavior
 - Roger Walsh

School of Physical Sciences

- Chemistry
 - Aaron P. Esser-Kahn
 - Alan Heyduk
 - Annmarie Carlton
 - Athan J. Shaka
 - Barbara Finlayson-Pitts
 - Donald R. Blake
 - Douglas J. Tobias
 - Philipp Furche
 - James Smith
 - Jenny Y. Yang
 - John C. Hemminger
 - Kenneth Janda
 - Liz Jarvo
 - Manabu Shiraiwa
 - Matthew D. Law
 - R. Benny Gerber
 - Reginald Penner
 - Robert M. Corn
 - Sergey Nizkorodov
 - Shane Ardo
 - Vy Maria Dong
 - William J. Evans
- Earth System Science
 - Adam Martiny
 - Alex Guenther
 - Charlie Zender
 - Claudia Czimczik
 - Elizabeth Crook
 - Ellen Druffel
 - Eric Rignot
 - Eric S. Saltzman
 - Francois W. Primeau
 - Gudrun Magnusdottir
 - Isabella Velicogna
 - James T. Randerson
 - Jin-Yi Yu
 - Katherine Mackey
 - Kathleen R. Johnson
 - Mathieu Morlighem
 - Michael Goulden
 - Michael J. Prather
 - Steven J. Davis
 - Susan E. Trumbore

- Mathematics
 - John S. Lowengrub
- Physics and Astronomy
 - David P. Kirkby
 - Dennis Silverman
 - Franklin Dollar
 - Ilya Krivorotov
 - Liu Chen
 - Peter Taborek
 - Roger D. McWilliams
 - Ruqian Wu
 - Toshiki Tajima
 - William W. Heidbrink
 - Wilson Ho
 - Zachary Fisk
 - Zhihong Lin

School of Social Ecology

- John M. Whiteley
- Criminology, Law and Society
 - Geoff Ward
 - Teresa Dalton
- Planning, Policy and Design
 - Ajay Garde
 - David L. Feldman
 - Jae Hong Kim
 - John D. "Doug" Houston
 - Nicola Ulibarri
 - Nicholas J. Marantz
 - Richard Matthew
 - Sanjoy Mazumdar
 - Scott A. Bollens
 - Victoria Basolo

School of Social Sciences

- Anthropology
 - Bill Maurer
 - Julia Elyachar
 - Michael Burton
 - Michael Montoya
 - Tom Boellstorff
 - Valerie Olson
- Cognitive Sciences
 - Barbara Sarnecka
- Economics
 - David Brownstone
 - Jan Brueckner
 - Kenneth Small
 - Kevin Roth
 - Linda Cohen
 - Martin C. McGuire

- Matthew Harding
 - Michael McBride
- Political Science
 - Cecelia Lynch
- Sociology
 - Ann M. Hironaka
 - David A. Smith
 - David J. Frank
 - David S. Meyer
 - Evan Schofer
 - Frank D. Bean
 - Susan K. Brown

Faculty Engaged in Sustainability Research (Alphabetical Listing)

- Al Faruque** [Mohammad Abdullah Al Faruque](#)
Assistant Professor
Department of Electrical Engineering and Computer Science
The Henry Samueli School of Engineering
<http://aicps.eng.uci.edu/>
Research: cyber-physical Energy Systems; demand side energy management at the distribution grid level; modeling, co-simulation, design automation tools, scheduling algorithm, and communication
- Allison** [Steven D. Allison](#)
Associate Professor
Department of Ecology and Evolutionary Biology, School of Biological Sciences
Earth System Science, School of Physical Sciences
<http://allison.bio.uci.edu>
Research: microbial ecology, global change, and carbon cycling
- Amin** [Alpesh Amin](#)
Professor & Chair, Department of Medicine
Department of Internal Medicine, School of Medicine
http://www.faculty.uci.edu/profile.cfm?faculty_id=5173
Research: implementation science in the area of quality and safety that lead to sustainability research and outcomes
- Anderson** [Craig L. Anderson](#)
Research Director, Center for Trauma and Injury Prevention Research
Research Specialist
Department of Emergency Medicine, School of Medicine
http://www.faculty.uci.edu/profile.cfm?faculty_id=5797&name=Craig%20L.%20Anderson
Research: reducing the burden of injury through clinical and prevention studies
- Ardo** [Shane Ardo](#)
Assistant Professor
Department of Chemistry, School of Physical Sciences
<http://www.chem.uci.edu/~ardo/>
Research: solar cells, solar fuels, solar seawater desalination, flow batteries

- Avise** [John C. Avise](#)
Distinguished Professor
Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5292
Research: ecological and evolutionary genetics, natural history, conservation biology
- Ayala** [Francisco J. Ayala](#)
University Professor and Donald Bren Professor of Biological Sciences
Department of Ecology and Evolutionary Biology, School of Biological Sciences
Professor
Department of Philosophy, School of Humanities
Department of Logic and Philosophy of Science, School of Social Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2134
Research: evolutionary genetics
- Azizi** [Eman "Manny" Azizi](#)
Assistant Professor
Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5841
Research: muscle biology, locomotion, biomechanics
- Baker** [Dean Baker](#)
Chief, Division of Occupational and Environmental Medicine
Director, UCI Center for Occupational and Environmental Health
Professor of Pediatrics, Professor of Epidemiology
Department of Medicine, School of Medicine
http://www.coeh.uci.edu/faculty/coeh_fac/dr_baker.htm
Research: environmental epidemiology; occupational epidemiology; occupational medicine; toxicology; children's health; developmental toxicity; exposure, study design; occupational stress; asthma; pesticides; hazardous waste; environment; biological markers
- Bartell** [Scott Bartell](#)
Associate Professor
Program in Public Health
http://www.faculty.uci.edu/profile.cfm?faculty_id=5377
Research: methods in public health: probabilistic models and statistical methods for exposure assessment, environmental epidemiology, and risk/decision analysis
- Basolo** [Victoria Basolo](#)
Professor
Department of Planning, Policy and Design, School of Social Ecology
<http://socialecology.uci.edu/faculty/basolo/>
Research: housing planning and policy, economic and community development, and urban disasters

- Bauman** [Christopher W. Bauman](#)
 Assistant Professor
 The Paul Merage School of Business
<http://merage.uci.edu/Faculty/FacultyDirectory/FacultyProfiles.aspx?FacultyID=8477>
 Affiliate: Center for Global Leadership
Research: corporate social responsibility, business ethics, and negotiations
- Bean** [Frank D. Bean](#)
 Director, Center for Research on Immigration, Population and Public Policy
 Chancellor's Professor
 Department of Sociology, School of Social Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4622
Research: international migration, demography, racial and ethnic relations, economic sociology, family
- Bennett** [Albert F. Bennett](#)
 Vice Provost for Academic Initiatives
 Professor Emeritus
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
 Affiliate: Center for Environmental Biology, Sustainability Initiative, Salton Sea Initiative, Water UCI, OCEANS UCI
www.tinyurl.com/al-bennett
Research: conservation research and education partnerships with public and non-governmental land management entities
- Blake** [Donald R. Blake](#)
 Professor
 Department of Chemistry, School of Physical Sciences
 Department of Earth System Science, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4579
Research: atmospheric chemistry
- Blumberg** [Bruce Blumberg](#)
 Professor
 Department of Developmental and Cell Biology, School of Biological Sciences
<http://blumberg-lab.bio.uci.edu/index.htm>
Research: Gene-environment interactions, gene regulation and inter-cellular signaling in development and physiology
- Boellstorff** [Tom Boellstorff](#)
 Professor
 Department of Anthropology, School of Social Sciences
<http://faculty.sites.uci.edu/boellstorff/>
Research: internet culture, virtual worlds, sexuality and globalization, disability, attitudes toward "native plants"

- Bollens** [Scott A. Bollens](#)
 Professor
 Warmington Chair in Peace and International Cooperation
 Department of Planning, Policy and Design, School of Social Ecology
<http://socialecology.uci.edu/faculty/bollens>
Research: social sustainability in politically and ethnically divided cities, and sustainable land use policy and regional governance
- Bondy** [Stephen C. Bondy](#)
 Professor
 Environmental Health Sciences Graduate Program
 Center for Occupational and Environmental Health
 Department of Medicine, School of Medicine
http://www.coeh.uci.edu/faculty/coeh_fac/dr_bondy.htm
Research: the potential role of toxic agents in the promotion of brain aging and neurological disease
- Bowker** [Geoffrey Bowker](#)
 Professor
 Department of Informatics, Donald Bren School of Information and Computer Sciences
<http://www.ics.uci.edu/~gbowker/>
Research: cyberinfrastructures for environmental science; and the use of environmental databases in policy development.
- Bowler** [Peter A. Bowler](#)
 Director, UCI Arboretum and Herbarium
 Director, Interdisciplinary Minor in Global Sustainability
 Faculty Manager, San Joaquin Marsh Reserve and Burns Piñon Ridge Desert Reserve
 Oversees use and management of the UCI Ecological Preserve
 Senior Lecturer SOE
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2119&name=Peter%20A.%20Bowler
Research: ecological restoration, wetland restoration, coastal scrub sage
- Bracken** [Matthew Bracken](#)
 Associate Professor
 Department of Ecology & Evolutionary Biology, School of Biological Sciences
<http://faculty.sites.uci.edu/biodiversity/>
Research: causes and consequences of biodiversity change in marine ecosystems

- Bradley** [Timothy J. Bradley](#)
 Professor
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
 Affiliate: UC Network for Experimental Research on Evolution
http://www.faculty.uci.edu/profile.cfm?faculty_id=2131
Research: physiology, ecology, cell biology, and pathology of insects
- Briscoe** [Adriana D. Briscoe](#)
 Associate Professor
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
 Affiliate: UC Network for Experimental Research on Evolution
http://www.faculty.uci.edu/profile.cfm?faculty_id=5288
Research: molecular evolution, evolutionary physiology, color vision, color, behavior
- Brouillette** [Liane Brouillette](#)
 Co-Director, Center for Learning in the Arts, Sciences, and Sustainability
 Associate Professor
 School of Education
http://www.faculty.uci.edu/profile.cfm?faculty_id=4510
Research: using arts education to help students from low-income neighborhoods better understand the language of science
- Brouwer** [Jack Brouwer](#)
 Associate Director, National Fuel Cell Research Center
 Assistant Professor of Mechanical, Aerospace, and Environmental Engineering
 Department of Mechanical and Aerospace Engineering
<http://www.eng.uci.edu/users/jack-brouwer>
 The Henry Samueli School of Engineering
Research: advanced energy technologies, fuel cells, energy sources and pollutant emissions
- Brown** [Susan K. Brown](#)
 Associate Professor
 Department of Sociology, School of Social Sciences
 Affiliate: Center for Research on Immigration, Population and Public Policy
http://www.faculty.uci.edu/profile.cfm?faculty_id=4670
Research: international migration, demography, educational inequality and urban sociology
- Brownstone** [David Brownstone](#)
 Professor
 Department of Economics, School of Social Sciences
<http://www.economics.uci.edu/~dbrownst/>
 Affiliate: Institute of Transportation Studies
Research: demand for efficient vehicles and sustainable transportation

- Brueckner** [Jan Brueckner](#)
 Chancellor's Professor
 Department of Economics, School of Social Sciences
<http://www.socsci.uci.edu/~jkbrueck/>
Research: Energy use in cities, taking into account both residential and transportation usage
- Burley** [Nancy Tyler Burley](#)
 Professor
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2138
Research: evolutionary significance of mate preferences, using Zebra finches as experimental models
- Burton** [Michael L. Burton](#)
 Professor Emeritus, Department of Anthropology
 School of Social Sciences
<http://faculty.sites.uci.edu/mlburton/>
Research: social life in critically stressed environments, food production and gender systems, agriculture, farming and herding throughout global environments, climate change and greenhouse gasses, impacts of climate change on global food production
- Camacho** [Alejandro E. Camacho](#)
 Director, Center for Land, Environment, and Natural Resources
 Professor
 School of Law
 Steering Committee, UCI Oceans
<http://www.law.uci.edu/faculty/full-time/camacho/>
Research: environmental, land use, and natural resources law; adaptive management; collaborative governance; climate change
- Campbell** [Diane Campbell](#)
 Professor
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
 Affiliate: Center for Environmental Biology
<http://campbell-lab.bio.uci.edu/>
Research: evolution in response to climate, pollination, impacts of invasive species
- Carlton** [Annmarie Carlton](#)
 Associate Professor
 Department of Chemistry, School of Physical Sciences
 Affiliate: AirUCI
<http://airuci.uci.edu/faculty/carlton>
Research: biosphere-atmosphere interactions through organic cloud chemistry and particle formation

- Carpenter [F. Lynn Carpenter](#)
Professor Emeritus
Department of Ecology and Evolutionary Biology, School of Biological Sciences
<http://darwin.bio.uci.edu/~flcarpen/>
<http://www.rainprogram.org/about/>
Research: restoring native trees and soil fertility to eroded pasture land in the Neotropics
- Chakravarthy [Bharath Chakravarthy](#)
Associate Director, Center for Trauma and Injury Prevention Research
Assistant Professor
Department of Emergency Medicine, School of Medicine
http://www.faculty.uci.edu/profile.cfm?faculty_id=5752&name=Bharath%20%20Chakravarthy
Research: population-based sustainable reduction of the burden of disease caused by behavioral emergencies
- Chen [Liu Chen](#)
Professor
Department of Physics and Astronomy, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2034
Research: controlled thermonuclear fusion research
- Choi [BongKyoo Choi](#)
Assistant Professor
Center for Occupational and Environmental Health
Department of Medicine, School of Medicine
Program in Public Health
http://www.coeh.uci.edu/faculty/coeh_fac/dr_choi.htm
Research: psychosocial occupational epidemiology, work stress theories and methodologies, work stress physiology, cross-cultural studies, and quality of working life policies
- Clegg [Michael T. Clegg](#)
Professor
Department of Ecology and Evolutionary Biology, School of Biological Sciences
Affiliate: UC Network for Experimental Research on Evolution
http://www.faculty.uci.edu/profile.cfm?faculty_id=5127
Research: plant genetics, population genetics, molecular evolution

- Cohen [Linda Cohen](#)
 Professor
 Department of Economics, School of Social Sciences
 Affiliate: Center for Economic Public Policy, Center for the Study of Democracy, the
 Institute for Mathematical Behavioral Sciences, UC Center for Energy and
 Environmental Economics
http://www.faculty.uci.edu/profile.cfm?faculty_id=2222
*Research: energy economics, environmental economics, economics of innovation,
 with a focus on understanding how innovation for environmental and energy
 industries responds to public policies and economic institutions*
- Crook [Elizabeth Crook](#)
 Lecturer PSOE
 Department of Earth System Science, School of Physical Sciences
 Affiliate: UCI Oceans
<https://www.ess.uci.edu/people/ecrook>
*Research: Ocean acidification, coral reef ecosystems, biogeochemical cycling, and
 integrating sustainability research in a large-classroom setting*
- Cooper [William J. Cooper](#)
 Director, National Science Foundation
 Professor
 Department of Civil and Environmental Engineering
 The Henry Samueli School of Engineering
http://www.eng.uci.edu/files/William_Cooper_CV_2006.pdf
*Research: the design and optimization of low-cost and efficient constructed
 wetlands for the treatment of water from storm water, the environmental fate of
 pharmaceuticals in natural waters, optimization of processes in indirect potable
 reuse of wastewater*
- Corn [Robert M. Corn](#)
 Professor
 Department of Chemistry, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5123
Research: surface chemistry, nanoparticles for microinverters
- Czimczik [Claudia Czimczik](#)
 Associate Professor
 Department of Earth System Science, School of Physical Sciences
<http://www.ess.uci.edu/people/czimczik/>
*Research: carbon cycling in terrestrial ecosystems, sources of airborne particulate
 matter*

- Dabdub** [Donald Dabdub](#)
 Professor
 Department of Mechanical and Aerospace Engineering
 The Henry Samueli School of Engineering
http://www.faculty.uci.edu/profile.cfm?faculty_id=3297
Research: air pollution modeling, energy, transportation, and air quality
- Dalton** [Teresa Dalton](#)
 Lecturer, SOE
 Department of Criminology, Law & Society, School of Social Ecology
<http://faculty.sites.uci.edu/tdalton/>
Research: Environmental impact of food choices, both how environmental issues affect nutritional choices and how food consumption decisions affect the environment
- Da Silva** [Nancy Da Silva](#)
 Professor
 Department of Chemical Engineering and Materials Science
 The Henry Samueli School of Engineering
<http://www.eng.uci.edu/users/nancy-da-silva>
Research: biofuels and biorenewable chemicals
- Davis** [Kristen A. Davis](#)
 Associate Professor
 Department of Civil & Environmental Engineering
 The Henry Samueli School of Engineering
<http://davis.eng.uci.edu/>
Research: coastal oceanography, environmental fluid mechanics, turbulent mixing
- Davis** [Seth Davis](#)
 Assistant Professor
 School of Law
<http://www.law.uci.edu/faculty/full-time/davis/>
Research: public administration, federal Indian law, energy law and policy
- Davis** [Steven J. Davis](#)
 Associate Professor
 Department of Earth System Science, School of Physical Sciences
<http://ess.uci.edu/~sjdavis>
Research: global environmental change, environmental economics, energy systems, international trade

- Delfino** [Ralph J. Delfino](#)
Professor
Department of Epidemiology, School of Medicine
http://www.faculty.uci.edu/profile.cfm?faculty_id=5070
Research: environmental epidemiology, health effects of air pollution on human populations
- DiMento** [Joseph DiMento](#)
Professor
Department of Planning, Policy and Design, School of Social Ecology
Affiliate: Center for Land, Environment, and Natural Resources, School of Law
http://www.faculty.uci.edu/profile.cfm?faculty_id=4768
Research: planning, land use and environmental law, use of social science in policy making, legal control of corporate behavior
- Dollar** [Franklin Dollar](#)
Assistant Professor
Department of Physics and Astronomy, School of Physical Sciences
<https://www.physics.uci.edu/people/franklin-dollar>
Research: plasma physics, laser accelerators, fusion energy
- Dong** [Vy Maria Dong](#)
Professor
Department of Chemistry, School of Physical Sciences
<http://www.chem.uci.edu/~dongv/>
Research: organic chemistry, catalysis, sustainable synthesis, green chemistry
- Druffel** [Ellen Druffel](#)
Fred Kavli Professor
Department of Earth System Science, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2027
Research: marine carbon cycling, past climate reconstruction, ocean circulation
- Dunn-Rankin** [Derek Dunn-Rankin](#)
Professor
Department of Mechanical and Aerospace Engineering
The Henry Samueli School of Engineering
http://www.faculty.uci.edu/profile.cfm?faculty_id=2366
Research: combustion, optical particle sizing, particle aerodynamics, laser diagnostics and spectroscopy, indoor air quality

- Edwards [Rufus Edwards](#)
Associate Professor
Department of Epidemiology, School of Medicine
Program in Public Health, College of Health Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4990
Research: emissions and human exposures to air pollution
- Eltawil [Ahmed Eltawil](#)
Associate Professor
The Henry Samueli School of Engineering
Electrical Engineering and Computer Science
<http://newport.eecs.uci.edu/~aeltawil/>
Research: precision irrigation and water management, sensor networks for civil infrastructure sustainability
- Elyachar [Julia Elyachar](#)
Director, Center for Global Peace & Conflict Studies
Associate Professor
Department of Anthropology, School of Social Sciences
<http://faculty.sites.uci.edu/elyachar>
Research: sustainable markets, sustainable economic activity, water sustainability, water infrastructures, biosecurities, botanical decolonization and environmental ethics
- Esser-Kahn [Aaron P. Esser-Kahn](#)
Assistant Professor
Department of Chemistry, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5835
Research: carbon capture, waste heat conversion
- Evans [William J. Evans](#)
Professor
Department of Chemistry, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2024
Research: catalysis, nuclear fuels, rare earth single molecule magnets
- Faiola [Celia Faiola](#)
Assistant Professor
Department of Ecology and Evolutionary Biology, School of Biological Sciences
<http://faculty.sites.uci.edu/cfaiola/>
Research: ecological climatology, global change, biosphere-atmosphere interactions, climate change feedbacks

- Fedoruk [M. Joseph Fedoruk](#)
Clinical Professor of Medicine
Center for Occupational and Environmental Health
Department of Medicine, School of Medicine
http://www.coeh.uci.edu/faculty/coeh_fac/dr_fedoruk.htm
Research: assessment of health effects of mold, pesticides, and other toxic exposures; microbial and indoor air quality issues; hazardous material incidents; exposure assessment
- Feldman [David L. Feldman](#)
Director, Water UCI
Professor
Department of Planning, Policy and Design, School of Social Ecology
http://www.faculty.uci.edu/profile.cfm?faculty_id=5594
Research: water resources, climate change policy, environmental ethics and policy, and environmental risk management
- Finlayson-Pitts [Barbara Finlayson-Pitts](#)
Founding Director, Atmospheric Integrated Research at UCI (AirUCI)
Professor
Department of Chemistry, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2194
Research: analytical atmospheric chemistry
- Fisk [Zachary Fisk](#)
Distinguished Professor
Department of Physics and Astronomy, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5451
Research: superconductors
- Fox [J. Christian Fox](#)
Director of Instructional Ultrasound
Professor of Clinical Emergency Medicine
Department of Emergency Medicine, School of Medicine
http://www.faculty.uci.edu/profile.cfm?faculty_id=5770
Research: the use and promotion of ultrasound as a sustainable medical diagnostic technique
- Frank [David John Frank](#)
Professor
Department of Sociology, School of Social Sciences
<https://webfiles.uci.edu/frankd/index.html>
Research: global discourse and activity to protect the natural environment

- Frank Steven A. Frank
 Professor
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
 Affiliate: UC Network for Experimental Research on Evolution
http://www.faculty.uci.edu/profile.cfm?faculty_id=2115
Research: evolutionary genetics, host-parasite interactions
- Furche Filipp Furche
 Professor
 Department of Chemistry, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5490
Research: computational atmospheric chemistry, electronic structure theory
- Garde Ajay Garde
 Associate Professor
 Department of Planning, Policy and Design, School of Social Ecology
<http://socialecology.uci.edu/faculty/agarde>
Research: sustainable design and sustainable neighborhood development in Southern California
- Gaut Brandon S. Gaut
 Professor
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4561
Research: population genetics, molecular evolution, genome evolution
- Gerber R. Benny Gerber
 Professor
 Department of Chemistry, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2017
Research: quantum chemical simulation of atmospheric systems
- German Donovan German
 Assistant Professor
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5858
Research: nutritional physiology, comparative physiology, global change, biogeochemistry
- Goodwin Michele Goodwin
 Director, Center for Biotechnology and Global Health Policy
 Chancellor's Professor
 School of Law
<http://www.law.uci.edu/faculty/full-time/goodwin/>
Research: bioethics, constitutional law, family law, human rights, medical law, reproductive rights, torts

- Goulden** [Michael Goulden](#)
 Professor
 Department of Earth System Science, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=3245
Research: ecosystem ecology, plant physiology, micrometeorology
- Grant** [Stanley Grant](#)
 Professor
 Department of Civil and Environmental Engineering
 The Henry Samueli School of Engineering
http://www.faculty.uci.edu/profile.cfm?faculty_id=2358
Research: tidal transport of bacteria, coastal runoff, microbial pollution in urban runoff, water reclamation and sustainable water supply
- Grant Ludwig** [Lisa Grant Ludwig](#)
 Associate Director, California Institute for Hazards Research
 Associate Professor
 Program in Public Health, College of Health Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4545
Research: natural hazards, paleoseismology, active faults, San Andreas fault, southern California faults, seismic hazard, environmental health and geology
- Guenther** [Alex Guenther](#)
 Professor
 Department of Earth System Science, School of Physical Sciences
 Affiliate: AirUCI
<https://www.ess.uci.edu/people/alexguenther>
Research: quantifying emissions of air pollution, climate relevant gases and particles, and predicting their response to land use and climate change
- Gui** [Luyi Gui](#)
 Assistant Professor
 The Paul Merage School of Business
<http://merage.uci.edu/Faculty/FacultyDirectory/FacultyProfiles.aspx?FacultyID=8532>
Research: product take-back policy and economics, operations research, theory
- Harding** [Matthew Harding](#)
 Associate Professor
 Department of Economics, School of Social Sciences
<http://www.socsci.uci.edu/~harding1/>
Research: energy efficiency and conservation through the implementation of behavioral programs, evaluation methods

- Hayes [Wayne B. Hayes](#)
Associate Professor
Department of Computer Science,
Donald Bren School of Information and Computer Sciences
http://www.ics.uci.edu/faculty/profiles/view_faculty.php?ucinetid=whayes
Research: ice sheet system modeling, sea level rise, climate change
- Heidbrink [William W. Heidbrink](#)
Professor
Department of Physics and Astronomy, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2015
Research: experimental plasma physics, fusion energy
- Hemminger [John C. Hemminger](#)
Professor
Department of Chemistry, School of Physical Sciences
Affiliate: AirUCI, Center for Solar Energy, Urban Water Research Center
http://www.faculty.uci.edu/profile.cfm?faculty_id=2014
Research: surface chemistry and physics, photovoltaic material analysis
- Heyduk [Alan Heyduk](#)
Associate Professor
Department of Chemistry, School of Physical Sciences
Affiliate: Center for Solar Energy
http://www.faculty.uci.edu/profile.cfm?faculty_id=4940
Research: energy conversion chemistry
- Hicks [James W. Hicks](#)
Professor
Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2158
Research: comparative physiology of circulation and gas exchange
- Hironaka [Ann M. Hironaka](#)
Professor
Department of Sociology, School of Social Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5489
Research: world society and environmental protection outcomes
- Ho [Wilson Ho](#)
Donald Bren Professor
Department of Physics and Astronomy, School of Physical Sciences
Department of Chemistry, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4583
Research: fundamental understanding of bonding and reactions for control of chemistry

- Hochbaum [Allon Hochbaum](#)
Assistant Professor
Department of Chemical Engineering and Materials Science, The Henry Samueli School of Engineering
Department of Chemistry, School of Physical Sciences
Affiliate: Center for Solar Energy, and the Institute for Complex Adaptive Matter
http://www.faculty.uci.edu/profile.cfm?faculty_id=5863
Research: nanoscale materials and hybrid bio-inorganic devices for applications in clean energy
- Hoonpongsimanont [Wirachin Ying Hoonpongsimanont](#)
Assistant Professor
Department of Emergency Medicine, School of Medicine
Affiliate: Center for Trauma and Injury Prevention Research
http://www.faculty.uci.edu/profile.cfm?faculty_id=5876
Research: reducing the burden of disease through injury prevention research and emergency medicine education
- Hopfer [Suellen Hopfer](#)
Assistant Professor
Program in Public Health, College of Health Sciences
http://publichealth.uci.edu/ph/_faculty
Research: surveying Californians about attitudes and awareness on climate change and how it impacts their lives, using frames to engage the public and policy makers, health communication, message design, and intervention design to bring about advocated behavior changes for public health
- Houston [John D. "Doug" Houston](#)
Associate Professor
Department of Planning, Policy and Design, School of Social Ecology
Affiliate: Institute of Transportation Studies and C-DASA
<http://socialecology.uci.edu/faculty/houston>
Research: transportation, air pollution, urban inequality, environmental equity, spatial analysis
- Hsu [Kuo-lin Hsu](#)
Professor
Department of Civil and Environmental Engineering
The Henry Samueli School of Engineering
http://www.faculty.uci.edu/profile.cfm?faculty_id=5092
Research: remote sensing of precipitation, hydrologic systems modeling, stochastic hydrology, and water resources systems planning

- Hughes** [Brad Hughes](#)
 Director of Strategic Media Productions, School of Biological Sciences
 Senate Faculty SOE
 Department of Ecology & Evolutionary Biology, School of Biological Sciences
 Affiliate: School of Education, Claire Trevor School of the Arts
http://www.faculty.uci.edu/profile.cfm?faculty_id=5587
Research: science education, experimental evolution, sustainable energy, educational media production, marine science, ecological modeling
- Huxman** [Travis Huxman](#)
 Director, Center for Environmental Biology
 Director, UCI Sustainability Initiative
 Director, Steele/Burnand Anza-Borrego Desert Research Center
 Professor
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5907
Research: the evolution of plant traits and the impacts of climate change on ecosystems
- Igler** [David Igler](#)
 Chair and Professor of History
 Department of History, School of Humanities
http://www.faculty.uci.edu/profile.cfm?faculty_id=5334
Research: Environmental History and Climate Studies
- Jabbari** [Faryar Jabbari](#)
 Professor
 Department of Mechanical and Aerospace Engineering
 The Henry Samueli School of Engineering
http://www.faculty.uci.edu/profile.cfm?faculty_id=2368
Research: optimal control theory, distributed parameter systems, parameter identification, comprehensive approach for combustion control, dynamic modeling and control issues in Fuel Cells
- Jackson** [Jesse Colin Jackson](#)
 Assistant Professor
 Department of Art, Claire Trevor School of the Arts
<http://www.jessecolinjackson.com>
Research: creative practice engaged with sustainability issues
- Janda** [Kenneth Janda](#)
 Dean, School of Physical Sciences
 Professor
 Department of Chemistry, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2048
Research: chemical physics, gas hydrates

- Jarvo
Liz Jarvo
Associate Professor
Department of Chemistry, School of Physical Sciences
http://chem.ps.uci.edu/~erjarvo/Jarvo_Group/Home.html
Research: green chemistry, catalysis
- Jayakrishnan
R. Jayakrishnan
Professor
Department of Civil and Environmental Engineering,
The Henry Samueli School of Engineering
Affiliate: Institute of Transportation Studies
http://www.faculty.uci.edu/profile.cfm?faculty_id=2514
Research: transportation systems analysis
- Jiang
C. Sunny Jiang
Professor
Department of Civil and Environmental Engineering
The Henry Samueli School of Engineering
Adjunct Professor
Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4873
Research: environmental biotechnology, water quality and pollution microbiology, microbial ecology
- Jin
Wenlong Jin
Associate Professor
Department of Civil and Environmental Engineering
The Henry Samueli School of Engineering
Affiliate: Institute of Transportation Studies
<http://www.its.uci.edu/~wjjin/>
Research: traffic flow theory, transportation network analysis, intelligent transportation systems
- Johnson
Kathleen R. Johnson
Assistant Professor
Department of Earth System Science, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5444
Research: reconstructing past hydroclimate using speleothems (cave deposits) and other archives; isotope and trace element geochemistry
- Keller
L. Robin Keller
Professor
Operations and Decision Technologies, The Paul Merage School of Business
<http://faculty.sites.uci.edu/lrkeller/>
Affiliate: The Institute for Mathematical Behavioral Sciences
Research: water resources in Arizona and flood risk in California

- Kim
Jae Hong Kim
Associate Professor
Department of Planning, Policy and Design, School of Social Ecology
<http://socialecology.uci.edu/faculty/jaehk6>
Research: regional economic development, land use, economic–physical development nexus, location choice, urban system modeling
- Kirkby
David P. Kirkby
Professor
Department of Physics and Astronomy, School of Physical Sciences
Affiliate:
http://www.faculty.uci.edu/profile.cfm?faculty_id=4844
Research: experimental particle physics, energy efficiency
- Kitazawa
Masashi Kitazawa
Assistant Professor
Department of Medicine, School of Medicine
Affiliate: Center for Occupational and Environmental Health
<http://faculty.sites.uci.edu/kitazawa/>
Research: environmental risk factors and neurodegenerative diseases
- Kleinman
Michael T. Kleinman
Adjunct Professor
Center for Occupational and Environmental Health
Department of Medicine, School of Medicine
http://www.coeh.uci.edu/faculty/coeh_fac/dr_kleinman.htm
Research: potential links between environmental pollutants and preventable neurological, cardiological, and pulmonary diseases
- Koenig
Kristi L. Koenig
Director, Center for Disaster Medical Sciences
Director, Public Health Preparedness
Director, International EMS and Disaster Medical Sciences Fellowship
Professor
Department of Emergency Medicine, School of Medicine
http://www.faculty.uci.edu/profile.cfm?faculty_id=5400
Research: surge capacity, crisis care, disaster nomenclature, disaster medicine, emergency management systems, public health preparedness
- Krivorotov
Ilya Krivorotov
Associate Professor
Department of Physics and Astronomy, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5305
Research: superconducting nanostructures

- Kurdahi** [Fadi Kurdahi](#)
Professor
The Henry Samueli School of Engineering
Center for Embedded & Cyber-physical Systems
www.eng.uci.edu/~kurdahi
Research: cyber-physical systems modeling for water systems focusing on irrigation
- Law** [Matthew D. Law](#)
Assistant Professor
Department of Chemistry, School of Physical Sciences
Affiliate: Center for Solar Energy
http://www.faculty.uci.edu/profile.cfm?faculty_id=5535
Research: nanoscale materials and devices, solar energy conversion
- Lee** [Abraham P. Lee](#)
Director, Micro/Nano Fluidics Fundamentals Focus Center
Director, Center for Advanced Design and Manufacturing of Integrated Microfluidics
Professor and Chair
Department of Biomedical Engineering
Professor, Mechanical and Aerospace Engineering
The Henry Samueli School of Engineering
<http://www.eng.uci.edu/users/abraham-lee>
Research: integrated micro- and nano-fluidic chip processors for the manipulation and self-assembly of biomolecules and other synthesized nanoparticles
- Levorato** [Marco Levorato](#)
Assistant Professor
Department of Computer Science
Donald Bren School of Information and Computer Science
<http://www.ics.uci.edu/~mlevorat/>
Research: Smart energy grids, Communications for smart grids, smart buildings
- Li** [G.P. Li](#)
Director, UCI Division, California Institute for Telecommunications and Information Technology
Director, Integrated Nanosystems Research Facility
Interim Director, California Plug Load Research Center
Professor
Departments of Electrical Engineering and Computer Science, Biomedical Engineering, and Chemical Engineering and Materials Science
The Henry Samueli School of Engineering
<http://www.eng.uci.edu/users/gp-li>
Research: high-speed semiconductor technology, optoelectronic devices, integrated circuits, technologies for efficient energy utilization and consumption, and e-health

- Lin Zhihong Lin
Professor
Department of Physics and Astronomy, School of Physical Sciences
<http://phoenix.ps.uci.edu/zlin/>
Research: instability, turbulence, and transport in laboratory and space plasmas; fusion energy
- Long Anthony D. Long
Professor
Department of Ecology and Evolutionary Biology, School of Biological Sciences
Affiliate: UC Network for Experimental Research on Evolution
http://www.faculty.uci.edu/profile.cfm?faculty_id=4563
Research: quantitative and population genetics
- Long Margherita Long
Associate Professor
Department of East Asian Languages and Literatures, School of Humanities
http://www.faculty.uci.edu/profile.cfm?faculty_id=6157
Research: public intellectuals and anti-nuclear movements in Japan after the Fukushima disaster
- Lopes Cristina Lopes
Associate Professor
Department of Informatics, Donald Bren School of Information and Computer Sciences
<http://www.ics.uci.edu/~lopes/>
Research: programming languages and systems; software engineering; ubiquitous computing; increased knowledge about communication, in particular in systems that involve humans and machines
- Lotfipour Shahram Lotfipour
Director, Center for Trauma and Injury Prevention Research
Professor
Department of Emergency Medicine, School of Medicine
Program in Public Health, College of Health Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5163&name=Shahram%20%20Lotfipour
Research: reducing the burden of injury through screening and brief intervention for alcohol in the ED and trauma setting
- Loudon Catherine "Kate" Loudon
Senior Lecturer SOE
Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5386
Research: biomechanics, insect physiology, sensory ecology, biomimetic methods for insect control

- Lowengrub [John S. Lowengrub](#)
 Chancellor's Professor
 Department of Mathematics, School of Physical Sciences
 Professor
 Departments of Biomedical Engineering and Chemical & Materials Science, The Henry Samueli School of Engineering
http://www.faculty.uci.edu/profile.cfm?faculty_id=5697
Research: modeling of photovoltaic material growth
- Luderer [Ulrike Luderer](#)
 Director, Environmental Health Sciences Graduate Program
 Professor
 Center for Occupational and Environmental Health
 Department of Medicine, School of Medicine
 Department of Developmental and Cell Biology, School of Biological Sciences
 Program in Public Health, College of Health Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4535
Research: reproductive toxicology, developmental toxicology
- Lynch [Cecelia Lynch](#)
 Director, International Studies
 Professor
 Department of Political Science, School of Social Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4537
Research: international humanitarianism and sustainability, non-governmental organization work in Africa and Middle East, blog editor: The CIHA Blog
- Mackey [Katherine Mackey](#)
 Assistant Professor
 Department of Earth System Science, School of Physical Sciences
<http://www.ess.uci.edu/people/kmackey>
Research: phytoplankton, photosynthesis, biogeography, biogeochemistry, carbon cycle, global change
- Magnusdottir [Gudrun Magnusdottir](#)
 Professor and Chair
 Department of Earth System Science, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4467
Research: atmospheric dynamics, climate dynamics, atmospheric/ocean interactions, atmospheric/sea-ice interactions

- Marantz** [Nicholas J. Marantz](#)
 Assistant Professor
 Department of Planning, Policy and Design, School of Social Ecology
 Affiliate: UCI School of Law, Center for Land, Environment & Natural Resources (CLEANR)
<http://socialecology.uci.edu/faculty/nmarantz>
Research: Federalism and regional governance; Regulation of the built environment; Housing law and policy; Environmental law and policy
- Martiny** [Adam Martiny](#)
 Associate Professor
 Department of Earth System Science, School of Physical Sciences
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5362
Research: microbiology, environmental genomics, oceanography
- Martiny** [Jennifer Martiny](#)
 Professor
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5363
Research: community ecology, microbial diversity, and global change biology
- Matthew** [Richard A. Matthew](#)
 Founding Director, Center for Unconventional Security Affairs
 Professor
 Department of Planning, Policy and Design, School of Social Ecology
 Department of Political Science, School of Social Science
 Senior Fellow, International Institute for Sustainable Development
 Senior Member, United Nations Expert Group on Environment, Conflict and Peace
 Senior Fellow, Munk School, University of Toronto
http://www.faculty.uci.edu/profile.cfm?faculty_id=4770
Research: security implications of unsustainable process and systems, challenges of implementing sustainability into post-conflict peacebuilding and post-disaster reconstruction, and the use of social media to educate and mobilize around sustainability
- Maurer** [Bill Maurer](#)
 Dean, School of Social Sciences
 Professor
 Department of Anthropology, School of Social Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4488
Research: anthropology of law, globalization, anthropology of money and finance, alternative models of economic growth and financial inclusion, gender and kinship

- Mazmanian** **Melissa Mazmanian**
 Assistant Professor
 Department of Informatics
 Donald Bren School of Information and Computer Sciences
<http://www.ics.uci.edu/~mmazmani/Site/Home.html>
Research: mobile communication technologies and sustainable lives, socio-materiality and information technologies, organizational coordination and communication practices
- Mazumdar** **Sanjoy Mazumdar**
 Professor
 Department of Planning, Policy and Design, School of Social Ecology
<http://socialecology.uci.edu/faculty/mazumdar>
Research: sustainable and appropriate design/planning, energy conscious design, sustainable and appropriate disaster planning/design
- McBride** **Michael McBride**
 Associate Professor
 Department of Economics, School of Social Science
<http://faculty.sites.uci.edu/mcbride/>
Research: collective action, conflict, experimental methods
- McCoy** **Christopher Eric McCoy**
 Assistant Clinical Professor
 Director of Simulation Education
 Director of Education and Training, Center for Disaster Medical Sciences
 Director of Emergency Medical Services
 Department of Emergency Medicine, School of Medicine
http://www.faculty.uci.edu/profile.cfm?faculty_id=5789&name=Christopher
Research: reducing the burden of disease and improving healthcare systems via emergency medicine and disaster management simulation development and training
- McDonell** **Vince McDonell**
 Associate Director, UCI Combustion Laboratory
 Advanced Power and Energy Program
 Adjunct Professor
 Department of Mechanical and Aerospace Engineering
 The Henry Samueli School of Engineering
<http://www.apep.uci.edu/>
Research: characterization of and application of advanced diagnostics and modeling to alternative and renewable liquid and gaseous fuels for advanced combustion and distributed generation systems

- McGuire [Martin C. McGuire](#)
 Clifford S. Heinz Professor for Economics of Global Peace and Security
 Professor Emeritus
 Department of Economics, School of Social Sciences
 Affiliate: Center for Global Peace and Conflict Studies
http://www.faculty.uci.edu/profile.cfm?faculty_id=2454
Research: political economy of redistribution, social investment, and conflict resolution; international conflict, economic development and strategic competition; international trade and security
- McHenry [Matt McHenry](#)
 Associate Professor
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5273
Research: biomechanics, locomotion, sensory biology
- McWilliams [Roger D. McWilliams](#)
 Professor
 Department of Physics and Astronomy, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2735
Research: experimental plasma physics, fusion energy, lasers, intellectual property law
- Mecartney [Martha L. Mecartney](#)
 Professor
 Department of Chemical Engineering and Materials Science
 The Henry Samueli School of Engineering
<http://www.eng.uci.edu/users/martha-mecartney>
Research: New electrolytes for solid oxide fuel cells, ceramics for nuclear energy waste and recycled fuel, low energy routes to ceramic superplastic forming
- Mehrotra [Sharad Mehrotra](#)
 Professor
 Department of Computer Science
 Donald Bren School of Information and Computer Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4685
Research: distributed network systems in both water utilities and water distribution systems, data management and distributed systems-data mining, OLAP, event-oriented systems, multimedia systems, spatio-temporal analysis, uncertainty, privacy, service-oriented architectures, sensors, mobility, and localization
- Menkel-Meadow [Carrie Menkel-Meadow](#)
 Chancellor's Professor
 Center for Land, Environment, and Natural Resources
 School of Law
<http://ssrn.com/author=98428>
Research: conflict resolution and facilitation of land use, environmental and community issues

- Meyer** [David S. Meyer](#)
 Professor
 Department of Sociology, School of Social Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4654
Research: social movements, public policy, peace and war, social justice
- Mjolsness** [Eric D. Mjolsness](#)
 Director, Center for Computational Morphodynamics
 Professor
 Department of Computer Science
 Donald Bren School of Information and Computer Sciences
 Department of Mathematics, School of Physical Sciences
 Affiliate: UCI Institute for Genomics and Bioinformatics, UCI Center for Complex Biological Systems, Caltech Biological Network Modeling Center
<http://www.ics.uci.edu/~emj/>
Research: systems biology, scientific inference systems, and mathematical methods; "The Computable Plant;" metabolic modeling
- Mohraz** [Ali Mohraz](#)
 Assistant Professor
 Department of Chemical Engineering and Materials Science
 The Henry Samueli School of Engineering
<http://www.eng.uci.edu/users/ali-mohraz>
Research: designing microstructural materials with enhanced functionality for composites, biomimetic applications, alternative energy, and environmental remediation
- Montoya** [Michael J. Montoya](#)
 Associate Professor
 Departments of Anthropology and Chicano/Latin Studies, School of Social Sciences
 Program in Public Health, College of Health Sciences
<http://faculty.sites.uci.edu/michaelmontoya>
Research: community health, chronic disease, participatory action-research, local knowledge, political economy of disease, social studies of science and medicine, Latino health, translational science
- Mooney** [Kailen A. Mooney](#)
 Associate Professor
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
<http://tritrophic.org>
Research: studying the consequences of plant local adaptation to the abiotic environment for interactions with associated arthropod communities, and the consequences of such dynamics for response to climate change

- Morlighem** [Mathieu Morlighem](#)
 Assistant Professor
 Department of Earth System Science, School of Physical Sciences
<http://sites.uci.edu/morlighem/>
Research: Evaluate the ice sheets contribution to sea level rise over the next centuries in response to climate change using numerical modeling
- Mosallam** [Ayman S. Mosallam](#)
 Professor
 Director of Structural Engineering Testing Hall
 Department of Civil and Environmental Engineering
 The Henry Samueli School of Engineering
<http://www.eng.uci.edu/users/ayman-mosallam>
Research: evaluation of structural behavior and sustainability of green construction materials and systems; development of new rating system for green buildings; use of waste and recycled materials including plastics (LDPE, HDPE), tires, and waste concrete for developing new construction materials; Upgrading the structural capacity of wood members both virgin and damaged using advanced composites to reduce the consumption of natural wood; and the use of nanotechnology in developing affordable epoxy-based insulating films for building glass windows
- Mueller** [Laurence D. Mueller](#)
 Professor
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2704
Research: theoretical and empirical studies on density-dependent natural selection, population stability and dynamics
- Mulligan** [R. Michael Mulligan](#)
 Professor and Associate Dean for Graduate Studies
 Department of Developmental and Cell Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=3342
Research: molecular evolution and molecular mechanisms of RNA editing in plants
- Mumm** [Daniel R. Mumm](#)
 Associate Professor
 Department of Chemical Engineering and Material Science
 The Henry Samueli School of Engineering
<http://www.eng.uci.edu/users/daniel-mumm>
Research: advanced materials and structures, primarily the development of materials for power generation systems, propulsion, integrated sensing, advanced vehicle concepts and platform protection

Muzio

[Larry Muzio](#)

Adjunct Professor

Department of Mechanical and Aerospace Engineering

The Henry Samueli School of Engineering

<http://environment.uci.edu/people/larry-muzio>

Research: thermodynamics, combustion, combustion in practical systems, air pollution formation and control, advanced diagnostics applied to practical combustion systems

Nardi

[Bonnie Nardi](#)

Professor

Department of Informatics

Donald Bren School of Information and Computer Sciences

Associate: Laboratory for Ubiquitous Computing and Interaction

http://www.ics.uci.edu/faculty/profiles/view_faculty.php?ucinetid=nardi

Research: collapse computing-the study, design, and development of sociotechnical systems in the abundant present for use in a future of scarcity

Nisbet

[James Nisbet](#)

Assistant Professor

Department of Art History, School of Humanities

http://www.faculty.uci.edu/profile.cfm?faculty_id=5937

Research: modern and contemporary art, theory and criticism, environmental history, history of photography, media studies

Nizkorodov

[Sergey Nizkorodov](#)

Professor

Department of Chemistry, School of Physical Sciences

http://www.faculty.uci.edu/profile.cfm?faculty_id=4905

Research: atmospheric chemistry of organic aerosols

Noymer

[Andrew Noymer](#)

Associate Professor

Program in Public Health, College of Health Sciences

http://www.faculty.uci.edu/profile.cfm?faculty_id=5373

Research: demography, health

- Ogunseitan [Oladele Ogunseitan](#)
 Chair, Department of Population Health and Disease Prevention
 Director, Lead Campus on Green Materials – UC Toxic Substances Research and Teaching Program
 Professor
 Program in Public Health, College of Health Sciences
 Department of Social Ecology, School of Social Ecology
http://www.faculty.uci.edu/profile.cfm?faculty_id=2423
Research: environmental and health effects of industrial development with respect to pollution prevention and remediation, interdisciplinary approaches to environmentally benign product design and life-cycle assessment of materials that affect human health and the environment
- Olson [Betty H. Olson](#)
 Professor
 Department of Civil and Environmental Engineering, The Henry Samueli School of Engineering
 Community and Environmental Medicine, School of Medicine
http://www.faculty.uci.edu/profile.cfm?faculty_id=2422
Research: public health aspects of waters and wastewaters
- Olson [Valerie Olson](#)
 Assistant Professor
 Department of Anthropology
 School of Social Sciences
<http://faculty.sites.uci.edu/valerieolson/>
Research: environmental anthropology, science and technology studies, ecosystem disasters, sociocultural dynamics and politics of ecosystem science, restoration, sustainability in extreme environments
- Penner [Reginald Penner](#)
 Chancellor's Professor
 Department of Chemistry, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2040
Research: gas sensors, light emitting systems, energy storage, and cancer surveillance
- Phalen [Robert F. Phalen](#)
 Director, Air Pollution Health Effects Laboratory
 Professor
 Center for Occupational and Environmental Health
 Department of Medicine, School of Medicine
http://www.coeh.uci.edu/faculty/coeh_fac/dr_phalen.htm
Research: possible long-term consequences for lung disease due to toxic inhalation exposure

- Prather** [Michael J. Prather](#)
Professor
Department of Earth System Science
School of Physical Sciences
<http://www.ess.uci.edu/~prather>
Research: global change, atmospheric chemistry, climate forcing and air quality
- Pratt** [Jessica Pratt](#)
Assistant Professor of Teaching
Department of Ecology and Evolutionary Biology, School of Biological Sciences
Affiliate: Center for Environmental Biology
<http://prattecology.weebly.com>
Research: Community engaged scholarship, interdisciplinary student training, case study and project based teaching
- Primeau** [Francois W. Primeau](#)
Associate Professor
Department of Earth System Science, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4739
Research: transport of tracers by the global ocean circulation, dynamics of the wind-driven ocean circulation, mid-latitude ocean-atmosphere interactions
- Randerson** [James T. Randerson](#)
Chancellor's Professor
Department of Earth System Science, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4971
Research: climate-carbon cycle feedbacks, fires, land cover change, remote sensing, tropical deforestation, global change in arctic and boreal ecosystems, terrestrial ecosystems and climate policy
- Ranz** [Jose Ranz](#)
Associate Professor
Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5434
Research: functional and comparative genomics, evolution of the expression network, speciation
- Rasmann** [Sergio Rasmann](#)
Assistant Professor
Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5974
Research: community ecology, agro-ecology

- Recker
Wilfred W. Recker
Professor
Department of Civil and Environmental Engineering
The Henry Samueli School of Engineering
Affiliate: Institute of Transportation Studies
http://www.faculty.uci.edu/profile.cfm?faculty_id=2874
Research: transportation modeling and urban systems
- Richardson
Debra J. Richardson
Managing Director, Center for Research on Sustainability, Collapse-preparedness and Information Technology (RiSCIT)
Professor
Department of Informatics, Donald Bren School of Information and Computer Sciences
Founding Dean, Donald Bren School of Information and Computer Sciences
<http://www.ics.uci.edu/~djr/DebraJRichardson/Home.html>
Research: Software Engineering for Sustainability – methodology to develop software-intensive IT systems that meet the functional needs of users while reducing environmental and other unsustainable impacts brought about by those systems, including appropriate technologies to treat sustainability as a first-class quality attribute in system development
- Rignot
Eric Rignot
Professor
Department of Earth System Science, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5467
Research: glaciology, climate change, radar remote sensing, ice sheet modeling, interferometry, radio echo sounding, ice-ocean interactions
- Ritchie
Stephen G. Ritchie
Director, Institute of Transportation Studies
Professor
Department of Civil and Environmental Engineering
The Henry Samueli School of Engineering
http://www.faculty.uci.edu/profile.cfm?faculty_id=2072
Research: transportation systems engineering
- Robinson-Dorn
Michael Robinson-Dorn
Director, Environmental Law Clinic
Clinical Professor of Law
Advisory Committee, Center for Land, Environment, and Natural Resources
School of Law
<http://www.law.uci.edu/faculty/full-time/robinson-dorn/>
Research: law related to climate change, communities grappling with rising ocean waters, oil and gas fracking, and other legal challenges

- Rose
Michael R. Rose
Professor
Department of Ecology and Evolutionary Biology, School of Biological Sciences
Affiliate and Director: UC Network for Experimental Research on Evolution
http://www.faculty.uci.edu/profile.cfm?faculty_id=5261
Research: experimental evolution, aging, biological immortality, drosophila, human evolution, evolution of sex
- Rosso
Diego Rosso
Assistant Professor
Director, UCI Water Energy Nexus (WEX) Center
Department of Civil and Environmental Engineering
The Henry Samueli School of Engineering
http://www.faculty.uci.edu/profile.cfm?faculty_id=5528
Research: environmental process engineering, water and wastewater engineering, carbon and energy footprints, energy conservation
- Roth
Kevin Roth
Assistant Professor
Economics, School of Social Sciences
<http://faculty.sites.uci.edu/kevinroth/>
Research: environmental and transportation economics.
- Sakai
Ann K. Sakai
Professor
Department of Ecology and Evolutionary Biology, School of Biological Sciences
Affiliate: UC Network for Experimental Research on Evolution
http://www.faculty.uci.edu/profile.cfm?faculty_id=2693
Research: plant population biology and conservation biology, plant breeding systems, population biology of invasive species
- Saltzman
Eric S. Saltzman
Professor
Department of Earth System Science, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4740
Research: atmospheric chemistry, biogeochemistry, air-sea exchange

Samuelsen

[Scott Samuelsen](#)

Professor Emeritus of Mechanical, Aerospace, and Environmental Engineering
Director, Advanced Power and Energy Program
Director, National Fuel Cell Research Center
Director, UCI Combustion Laboratory
Department of Mechanical and Aerospace Engineering
Department of Civil and Environmental Engineering
The Henry Samueli School of Engineering
Affiliate: Institute of Transportation Studies
http://www.faculty.uci.edu/profile.cfm?faculty_id=2933
Research: energy, combustion, fuel cells, hydrogen, distributed generation, alternative fuels, gas turbine engines, coal, oil, natural gas, air pollution

Sanders

[Brett Sanders](#)

Professor and Chair
Department of Civil and Environmental Engineering
The Henry Samueli School of Engineering
http://www.faculty.uci.edu/profile.cfm?faculty_id=3296
Research: urban flooding, sea level rise and coastal flooding, storm water management

Sandmeyer

[Suzanne Sandmeyer](#)

Director, UCI Genomics High-Throughput Facility
Professor
Departments of Biological Chemistry and Microbiology and Molecular Genetics
School of Medicine
Department of Chemical Engineering and Materials Science
The Henry Samueli School of Engineering
Affiliate: Center for Biorenewable Chemicals, Center for Complex Biological Systems and the Institute for Genomics and Bioinformatics
http://www.faculty.uci.edu/profile.cfm?faculty_id=2247
*Research: creating platform chemicals through the bioengineering of microorganisms, in particular *Saccharomyces cerevisiae*; using genomics, bioinformatics and molecular biology to enhance the ability to produce important hydrocarbons from yeast*

Saphores

[Jean-Daniel Saphores](#)

Professor
Department of Civil and Environmental Engineering
The Henry Samueli School of Engineering
Assistant Professor
Department of Planning, Policy and Design, School of Social Ecology
Department of Economics, School of Social Sciences
Affiliate: Institute of Transportation Studies
http://www.faculty.uci.edu/profile.cfm?faculty_id=4771
Research: environmental and natural resource economics and policy, urban economics, waste management, modeling & managing air pollution from transportation, modeling & managing water pollution, transportation systems, decision making under uncertainty

- Sarnecka [Barbara Sarnecka](#)
Assistant Professor
Department of Cognitive Science, School of Social Sciences
<http://www.cogsci.uci.edu/cogdev/Sarnecka/index.html>
Research: closing the achievement gap between Latino students from low-income backgrounds and students from higher-income backgrounds
- Scherfig [Jan Scherfig](#)
Professor Emeritus
Department of Civil and Environmental Engineering
The Henry Samueli School of Engineering
http://www.faculty.uci.edu/profile.cfm?faculty_id=2955
Research: water reclamation, waste treatment processes, environmental engineering
- Schnall [Peter L. Schnall](#)
Professor
Center for Occupational and Environmental Health
Department of Medicine, School of Medicine
http://www.coeh.uci.edu/faculty/coeh_fac/dr_schnall.htm
Research: the role of occupational stress in causing hypertension and cardiovascular disease
- Schoenung [Julie M. Schoenung](#)
Professor
Department of Chemical Engineering and Materials Science
The Henry Samueli School of Engineering
<http://engineering.uci.edu/users/julie-schoenung>
Research: analysis of factors that guide the materials selection decision-making process, such as economics, environmental impact and toxicity, cost-performance trade-offs, and market potential. Use of tools and datasets from several disciplines including management theory, health risk assessment, life cycle assessment and environmental economics in this research approach.
- Schofer [Evan Schofer](#)
Professor
Department of Sociology, School of Social Sciences
<http://faculty.sites.uci.edu/schofer/>
Research: Global environmentalism; international environmental treaties; the environmental movement; environmental Non-Governmental Organizations

Schreiber
[Merritt Schreiber](#)
Director of Psychological Programs, Center for Disaster Medical Sciences
Associate Clinical Professor
Department of Emergency Medicine, School of Medicine
http://faculty.uci.edu/profile.cfm?faculty_id=5890
Research: preventing/mitigating the burden of traumatic injuries and disaster/mass casualties/terrorism events on children and adults; impacts of crisis standards of care on healthcare providers in public health emergencies; other sustainable efforts include national policy on mental health effects of disasters, and impact of crisis standards of care in mass casualty events on patients, families and providers

Schultz
[Carl H. Schultz](#)
Director of Research, Center for Disaster Medical Sciences
Director, EMS and Disaster Medical Sciences Fellowship
Director, Disaster Medical Services, UCI Medical Center
Professor of Emergency Medicine and Public Health
Department of Emergency Medicine, School of Medicine
Affiliate: Center for Disaster Medical Sciences; Center for Unconventional Security Affairs
http://www.faculty.uci.edu/profile.cfm?faculty_id=5042
Research: reducing the human impacts of earthquakes, allocation of scarce resources in disaster, ethical issues related to the overall care of disaster victims, standard of medical care across populations and over time, hospital responses to Ebola and other potential infectious disease public health threats and disasters

Schwab
[Gabriele Schwab](#)
Chancellor's Professor
Department of Comparative Literature, School of Humanities
Department of Anthropology, School of Social Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2478
Research: ecocritical theories, environmental humanities, biopolitics, biosecurity

Seed
[Patricia Seed](#)
Professor and Cartographer
Department of History, School of Humanities
http://www.faculty.uci.edu/profile.cfm?faculty_id=5308
Research: served as an expert witness successfully defending the DOJ's Environmental Resource Division against a Federal lawsuit challenging the status of a wildlife refuge in the Pacific (Kingman Reef), mapped the potential human and environmental impact of rising sea levels on the West African coast, studied the impact of rising sea level's on bird reproduction, currently studying impact of rising sea levels on oil spills in the Niger Delta. Represented American Association of Geographers at COP22 in Morocco.

Shaka
[Athan J. Shaka](#)
Professor
Department of Chemistry, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2175
Research: radio chemistry and nuclear power

- Shaffer [Gregory Shaffer](#)
 Chancellor's Professor of Law
 School of Law
 Director, Center for Globalization, Law, and Society
<http://www.law.uci.edu/faculty/full-time/shaffer/>
Research: World Trade Organization, trade and environment policies, trade and sustainable development, international law and public goods
- Shank [Ronald C. Shank](#)
 Professor
 Department of Community & Environmental Medicine School of Medicine
http://www.faculty.uci.edu/profile.cfm?faculty_id=2329
Research: molecular mechanisms of DNA damage by chemical carcinogens, and biochemical activation of environmental carcinogens
- Shanthikumar [Devin Shanthikumar](#)
 Assistant Professor
 The Paul Merage School of Business
<http://merage.uci.edu/Faculty/FacultyDirectory/FacultyProfiles.aspx?FacultyID=8428>
Research: corporate reporting of sustainability activities, market responses to sustainability information
- Shiraiwa [Manabu Shiraiwa](#)
 Assistant Professor
 Department of Chemistry, School of Physical Sciences
 Affiliate: AirUCI
<http://www.chem.uci.edu/~mshiraiw/index.html>
Research: properties and multiphase processes of atmospheric aerosols and their effects on atmospheric chemistry, air quality and human health
- Shull [Kristina Shull](#)
 Lecturer
 Department of History, School of Humanities
http://www.faculty.uci.edu/profile.cfm?faculty_id=6200
Research: The history, politics, and rhetoric of the climate change debate; climate refugees. UCI Sustainability Initiative grant recipient 2016-17.
- Silverman [Dennis Silverman](#)
 Professor Emeritus
 Department of Physics and Astronomy, School of Physical Sciences
<http://www.physics.uci.edu/~silverma/>
Research: energy systems

- Small
 Kenneth Small
 Professor Emeritus
 Department of Economics, School of Social Sciences
 Affiliate: Institute of Transportation Studies
http://www.faculty.uci.edu/profile.cfm?faculty_id=2431
Research: energy use in transportation
- Smith
 David A. Smith
 Professor
 Department of Sociology, School of Social Sciences
 Department of Planning, Policy and Design, School of Social Ecology
http://www.faculty.uci.edu/profile.cfm?faculty_id=2529
Research: world systems analysis, urbanization, development, comparative-historical sociology, dependent development in East Asia, global cities
- Smith
 James Smith
 Professor
 Department of Chemistry, School of Physical Sciences
 Affiliate: AirUCI
<http://www.chem.uci.edu/people/jim-smith>
Research: processes by which nanoparticles form and grow in the atmosphere and to understand the impacts of nanoparticles on climate, ecosystems and human welfare
- Smyth
 Patrick J. “Padhraic” Smyth
 Director, Center for Machine Learning and Intelligent Systems
 Professor
 Department of Computer Science
 Donald Bren School of Information and Computer Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4518
Research: data mining, pattern recognition, machine learning, time series analysis, artificial intelligence, applied statistics
- Solomon
 Robert Solomon
 Clinical Professor of Law
 School of Law
<http://www.law.uci.edu/faculty/full-time/solomon/>
Research: community & economic development, housing, banking, education and domestic violence

- Sorooshian** **Soroosh Sorooshian**
 Director, Center for Hydrometeorology & Remote Sensing, Civil & Environmental Engineering, The Henry Samueli School of Engineering
 Distinguished Professor
 Department of Civil and Environmental Engineering, The Henry Samueli School of Engineering
 Department of Earth System Science, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=5082
Research: hydrology, hydrometeorology and hydroclimate modeling, remote sensing, water resources management
- Sorte** **Cascade Sorte**
 Assistant Professor
 Department of Ecology & Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=6026
<http://cascadesorte.org>
Research: climate change, invasive species, population and community ecology, and marine ecology
- Stern** **Hal Stern**
 Ted and Janice Smith Family Foundation Dean
 Donald Bren School of Information and Computer Sciences
 Professor
 Department of Statistics
http://www.faculty.uci.edu/profile.cfm?faculty_id=5011
Research: statistics, applications of statistics to biological and social sciences, sports and statistics
- Stern** **Sharon Stern**
 Senior Lecturer SOE
 Program in Public Health, College of Health Sciences
http://publichealth.uci.edu/ph_docs/faculty#S
Research: water pollution and treatment, constructed wetlands, potable reuse, environmental pollution remediation, health and policy
- Symanski** **Richard Symanski**
 Senior Lecturer
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2731
- Taborek** **Peter Taborek**
 Professor
 Department of Physics and Astronomy, School of Physical Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=2166
Research: surface physics of gas hydrates

- Tajima [Toshiki Tajima](#)
 Norman Rostoker Chair Professor
 Department of Physics and Astronomy, School of Physical Sciences
<http://www.physics.uci.edu/people/toshiki-tajima>
Research: plasma physics, laser accelerators, fusion energy
- Tanenbaum [Josh Tanenbaum](#)
 Assistant Professor
 Department of Informatics, Donald Bren School of Information and Computer Sciences
<https://transformativeplay.ics.uci.edu>
Research: Design Fiction and game design as tools for exploring and communicating sustainable futures to broad publics and stakeholder groups
- Tobias [Douglas J. Tobias](#)
 Professor
 Department of Chemistry, School of Physical Sciences
 Affiliate: AirUCI
http://www.faculty.uci.edu/profile.cfm?faculty_id=4581
Research: molecular dynamics of atmospheric systems
- Tomlinson [Bill Tomlinson](#)
 Professor
 Department of Informatics, Donald Bren School of Information and Computer Sciences
 Technical Director, Center for Research on Sustainability, Collapse-preparedness and Information Technology (RiSCIT)
 Affiliate: Laboratory for Ubiquitous Computing and Interaction and the California Institute for Telecommunications and Information Technology
<http://www.ics.uci.edu/~wmt/>
Research: environmental informatics, sustainability education, software engineering for sustainability, collapse computing (the study, design and development of sociotechnical systems in the abundant present for use in a future of scarcity)
- Treseder [Kathleen K. Treseder](#)
 Professor
 Department of Ecology and Evolutionary Biology, School of Biological Sciences
http://www.faculty.uci.edu/profile.cfm?faculty_id=4968
Research: microbial biogeochemistry, ecosystem ecology, and global change
- Trumbore [Susan E. Trumbore](#)
 Professor
 Department of Earth System Science, School of Physical Sciences
 Currently on leave from UCI, at the Max-Planck Institute for Biogeochemistry
http://www.faculty.uci.edu/profile.cfm?faculty_id=2210
Research: use of radiocarbon to trace the global carbon cycle, greenhouse gas production and consumption in terrestrial ecosystems

- Ulibarri [Nicola Ulibarri](#)
 Assistant Professor
 Department of Planning, Policy and Design, School of Social Ecology
 Affiliate: Water UCI
<http://faculty.sites.uci.edu/ulibarri/>
Research: water planning & policy; environmental governance; collaborative decision-making; multipurpose water infrastructure & dams
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Research: regulatory theory, law and development, environmental law, Chinese law
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Research: geophysics, glaciology, hydrology, remote sensing
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Research: distributed Systems, middleware, mobile and pervasive computing systems, multimedia computing, resilient and sustainable cyberphysical systems, smart cities
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Research: markets, incentives, asymmetric information, and energy efficiency

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Research: spatial epidemiology, environmental exposure
- Vrugt
Jasper Vrugt
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Research: measurement and modeling to investigate, understand, predict behavior of Earth systems; numerical and statistical approaches to engage complex systems models with observations; models applied to agriculture, atmospheric chemistry and physics, ecohydrology, ecology, hydrogeology, geophysics, remote sensing, soils, water resources
- Walsh
Roger Walsh
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Research: psychological causes and consequences of sustainability issues
- Wang
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Research: fuels cells, hydrogen, wind energy
- Ward
Geoff Ward
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Affiliate: Center in Law, Society and Culture
Research: advancing racial equality in juvenile justice, i.e., the fate of the group rests on the equitable development of its children and youth
- Weller
Stephen G. Weller
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Research: plant population biology and evolutionary genetics of plant reproductive systems

- Wickramasinghe [Kumar Wickramasinghe](#)
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Research: nanotechnology
- Whiteley [John M. Whiteley](#)
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Research: environmental consequences of nuclear weapons development, multi-disciplinary perspectives on global sustainability, training next generation of leaders in global sustainability
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Research: air pollution exposure assessment, and air pollution epidemiology
- Wu [Ruqian Wu](#)
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Research: density function calculations of photovoltaic materials
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Research: Hydrogen Fuel, carbon neutral fuels, fuel cells, photoelectrochemical cells, solar fuels, light driven carbon neutral fuel production

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Research: climate dynamics, atmospheric ocean interaction

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Research: desert dust, climate, erosion, radiation, snow, soot