

## ***Sustainability Science Team***

The Sustainability Science Team is an interdisciplinary cohort of four to six UCI doctoral students who work as a team to examine the interactions between natural and social systems, and how those interactions affect the challenge of sustainability. This opportunity is presented to all UCI students currently enrolled in a doctoral program within any of the UCI schools. Preference will be given to candidates who have completed their first year of doctoral studies and have met most departmental course requirements. The Environment Institute anticipates forming up to two Sustainability Science Teams each year. Team members are expected to maintain doctoral standing in their current department and their adviser's research group while working during the summer and part-time during the year to address a select problem in sustainability science. Summer support will be provided by the Environment Institute.

Participation in the Sustainability Science Team typically begins late summer of the first year and extends into the Winter or Spring Quarter of the second academic year. During the initial Fall Quarter, the Team will participate in *Special Topics in Sustainability Science*, a course taught by faculty members of the Environment Institute Steering Committee. Each Sustainability Science Team will then define a specific 21<sup>st</sup> century problem (or aspect of a complex problem) in sustainability science and develop an approach to increase understanding of the problem and move toward meaningful solutions. The research topic may be chosen from current research programs sponsored by the Environment Institute (e.g., Sea Level Rise, Hydrology of the Hindu Kush Himalaya region, Salton Sea Restoration) or another sustainability topic to be defined collectively by the Sustainability Science Team. Members of the Team work with affiliated faculty of the Environment Institute (and with their advisers) to identify stakeholders, connect to academic researchers and the community at large, and engage with experts who can provide valuable insight on the impacts and potential solutions. The Team will organize a seminar series in support of the selected topic and present a mini-conference or workshop for the campus and community that highlights their research and pragmatic solutions to the problem. The Team will also have the opportunity to prepare a research paper for publication.

Sustainability Science Teams to date:

- The [2010 Sustainability Science Team](#) includes Ph.D. candidates from the School of Humanities, the Merage School of Business, the Henry Samueli School of Engineering, the School of Social Ecology, and the School of

Physical Sciences. Their research project focuses on providing communities with a new framework for evaluating sustainability by developing a dynamic set of indicators tailored to the economic, social, and environmental circumstances faced by exurban developments particularly susceptible to boom and bust cycles, such as the communities of Western Riverside County, California. Working with the WRCOG (Western Riverside Council of Governments) the Team developed a comprehensive assessment tool to provide local government officials, policy-makers, and planners with pertinent and multi-modal indications of their community's current sustainability across several key sectors, such as economic development, energy and the environment, education, transportation, water and wastewater, and health care.

- The [2011 Sustainability Science Team](#) includes five Ph.D. candidates from the School of Humanities, School of Social Sciences, School of Social Ecology, and the Henry Samueli School of Engineering. The team took a trans-disciplinary approach, identifying topics in sustainability where their different skills, knowledge bases and interests would achieve greatest synergy. Their research project focuses on the concept of *sustainability through teaming* in Southern California. Specifically, the 2011 SST study will expand the concept of sister cities, in which fostering connections between neighboring communities - urban and rural, urban and suburban, or suburban and rural - may provide mutual benefits to the participants through shared resources and inter-dependencies. Such exchanges could provide a basis for synergistic sustainability programs capable of producing greater environmental benefits than an individual community might achieve alone.
  
- The 2012 Sustainability Science Team includes five Ph.D. candidates from the School of Physical Sciences, School of Social Sciences, School of Social Ecology, and the Henry Samueli School of Engineering. The team is working with the UC Irvine Initiative for the Restoration of the Salton Sea, an interdisciplinary collaboration of the Environment Institute, the Center for Environmental Biology, the Urban Water Research Center, and other interested faculty. The team will conduct research focused on developing an integrated approach to studying the Salton Sea's water quality, hydrological cycle, and purification technologies available to restore and sustain the salinity and eutrophic levels; they will also investigate the sustained profitability of desalination technologies. The SST project will anticipate the configuration of potential coalitions and incentives that help gain political and financial support to assist Salton Sea's stakeholders, toward framing Salton Sea restoration in a way that is technically feasible and politically acceptable.

For questions on the Environment Institute Sustainability Science Team program, please email Susan Coons at [envinst@uci.edu](mailto:envinst@uci.edu).