Educational Opportunities

AirUCI provides outstanding opportunities for undergraduates, graduate students, postdoctoral researchers, and UCI faculty to contribute to our research projects… and they do! This is particularly beneficial for students who wish to further their studies in the areas of smart energy, health, and a sustainable environment.

All members of our AirUCI team contribute to the many published papers we submit to peer-reviewed journals, including widely-read interdisciplinary journals such as *Science* and *Nature*. In addition to the vital laboratory work they perform, our team members from undergrads to faculty regularly give presentations at scientific meetings held by groups such as the American Chemical Society, the American Geophysical Union, the American Vacuum Society, and many others.

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Irvine, CA 92697-2025
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AirUCI Institute

…smart energy, sustainable environment

AirUCI is an Organized Research Unit (ORU) located at the University of California, Irvine. We're a multidisciplinary environmental research group dedicated to the study of and solutions for critical issues relating to climate change, air pollution, water quality, energy, and green technology — from local to global scales.

To achieve these ambitious goals, our world-renowned team has come together to form an integrated group of researchers, health scientists, and engineers whose focus is to elucidate the fundamental science and impacts of pollution, energy, and climate change and their effects on human health, society, and our planet.

Led by co-Directors Barbara Finlayson-Pitts and Sergey Nizkorodov, our award-winning team members conduct collaborative, fundamental research into the critical environmental issues of our time and their associated health effects, utilizing cutting-edge technology and state-of-the-art scientific and engineering approaches.

Want to help? You can assist with an endowment, with funding for state-of-the-art instrumentation, and with other support that will directly augment our work to solve the environmental and health crises we face.

AirUCI researchers work to understand the interactions between man-made emissions (like exhaust gases) and natural ones (such as sea salt) which combine in the atmosphere to create unknown reactions.

Why our work matters...

It is increasingly clear that the environmental impacts of human pollutants are among the most pressing problems for this and future generations. Understanding the sources and effects of these pollutants is crucial if we are to avoid the most extreme impacts and find cost-effective solutions to these urgent crises.

AirUCI is dedicated to understanding and solving air pollution, water quality, climate impact, and energy issues locally and globally and to mitigating the effects of pollution on human health. To achieve these ambitious goals, UCI Distinguished Professor Barbara Finlayson-Pitts founded AirUCI in 2005 with eight faculty. Now 26 strong, she and her world-renowned colleagues have joined forces to establish an integrated group of researchers, engineers, economists, biologists, and health researchers.

AirUCI also works closely with leading U.S. and international scientists, thus enhancing the impact of our research findings and greatly multiplying their benefits for the public. Our award-winning team conducts the fundamental research needed to address the urgent challenges we face in air and water quality, human health, climate change, and green technology.

Impact

The research breakthroughs achieved by AirUCI scientists are used to model test scenarios for:

- air pollutant controls that would ease effects on health and the environment
- advances in clean energy sources
- water quality and availability
- climate change mitigations and solutions

AirUCI's work promises to enable the creation of innovative technologies to minimize the effects of pollution and to uncover new approaches to solving these vital issues.

Research

Our research areas include:

- health effects of air pollution
- earth systems affected by gases released into the atmosphere
- effects of pollution on oceans and freshwater resources
- sustainable fuel and energy issues
- effects of pesticides on air, soil, and water resources
- the role of clouds in photochemistry
- ice core sampling for atmospheric composition and content

and many other areas of scientific interest.

Our Faculty Team

Our team has an established history of effective scientific collaboration. Along with AirUCI's Fulbright Canada Scholar, faculty from 5 UCI schools comprise our institute.

School of Physical Sciences

Donald R. Blake, Annmarie G. Carlton, Steven J. Davis, Michael B. Dennin, Barbara J. Finlayson-Pitts, Filipp U. Furche, R. Benny Gerber, Alex B. Guenther, John C. Hemminger, Saewung Kim, Craig Murray, Sergey Nizkorodov, Michael J. Prather, Eric S. Saltzman, Manabu Shiraiwa, James N. Smith, Douglas C. Tobias

College of Health Sciences

Ralph Delfino, Rufus Edwards, Michael T. Kleinman, Jun Wu

Henry Samueli School of Engineering

Jacob Brouwer, Donald Dabdub, G. Scott Samuelsen

School of Social Science

Paulina Oliva

School of Biological Sciences

Celia Faiola

AirUCI and California Regulatory Agencies

We work closely with state and regional agencies, including such high-profile organizations as:

- California Air Resources Board
- California State EPA
- California Energy Commission
- Orange County Water Districts
- South Coast Air Quality Management District

AirUCI represents partnerships between faculty at UCI and international researchers from, for example, the Weizmann Institute of Science in Israel; Fudan University in China; Wilfrid Laurier University in Canada; the Helmholtz-Zentrum/BESSY Institute in Germany among others. We also collaborate with universities and agencies across the U.S. as well as researchers from NOAA, NASA, EPA, NIH, DOE, Pacific Northwest National Laboratory, and Lawrence Berkeley National Laboratory.