

AGENDA

7:00 Prof. John Hemminger, UCI Executive Vice Chancellor of Research, will introduce UCI Chancellor Michael Drake and AirUCI Director Barbara Finlayson-Pitts.

Dr. Caldwell will present a talk entitled:
“*International Space Station Expedition 23/24: Living Above the World at Mach 25*”

8:00 Questions and answers

8:30 A reception in the Atrium will follow the presentation.



ISS crew members take a walk during a training session at the Star City space center, Kazakhstan. Tracy Caldwell Dyson, Russian cosmonaut Dmitry Kondratiev, and European Space Agency Astronaut Paolo Angelo Nespoli (L-R).



Fellow Astronaut Doug Wheelock took this photo of Tracy as she was reflecting upon her amazing view of Earth from aboard the ISS.

ABOUT TRACY CALDWELL DYSON

Born in Arcadia, California, Tracy Caldwell Dyson received a Bachelor of Science degree in Chemistry from California State University, Fullerton and a Doctorate in Physical Chemistry from the University of California, Davis.

As an undergraduate researcher at CSUF, Dr. Caldwell Dyson studied atmospheric chemistry with Professor Barbara Finlayson-Pitts. During that time (and for many years prior) she also worked as an electrician/inside wireman for her father's electrical contracting company doing commercial and light industrial construction.

At UC Davis, Dr. Caldwell Dyson taught general chemistry laboratories and her research work focused on investigating molecular surface-level reactivity and kinetics of metal surfaces using electron spectroscopy, FTIR (Fourier transform mass spectrometry), and laser desorption techniques.

Dr. Caldwell Dyson received the Camille and Henry Dreyfus Postdoctoral Fellowship in Environmental Science in 1997 to carry out research in atmospheric chemistry at UC Irvine, again with now-UCI Professor and AirUCI Director Barbara Finlayson-Pitts and with Prof. John Hemminger, AirUCI co-Director and UCI Executive Vice Chancellor of Research.

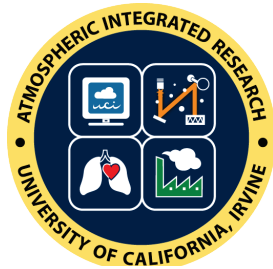
At UCI she investigated reactivity and kinetics of atmospherically relevant systems using atmospheric pressure ionization mass spectrometry, Fourier transform infrared and ultraviolet absorption spectroscopies. She also developed methods of chemical ionization for spectral interpretation of trace compounds. She has published and presented her work in numerous papers at technical conferences and in scientific journals. Dr. Caldwell Dyson has remained in contact with these favorite professors Hemminger and Finlayson-Pitts and invited them to attend the festivities and launch as she embarked on the August, 2007 voyage of the space shuttle *Endeavour*.

Dr. Caldwell Dyson has logged over 188 days in space. STS-118 (August 8-21, 2007) was the 119th space shuttle flight, the 22nd flight to the station, and the 20th flight for *Endeavour*. Traveling 5.3 million miles in space, the STS-118 mission was completed in 12 days, 17 hours, 55 minutes, and 34 seconds. On April 2, 2010, she launched aboard a Soyuz TMA-18 crew capsule from the Baikonur Cosmodrome in Kazakhstan, docking with the International Space Station two days later to join the Expedition 23 crew. For the next 174 days, Dr. Caldwell Dyson lived and worked aboard the International Space Station as a Flight Engineer on Expedition 23/24. She performed three successful spacewalks, logging 22 hours and 49 minutes of EVA time. The Expedition 24 crew returned to a safe landing in central Kazakhstan on September 25, 2010.

Dr. Caldwell Dyson is a private pilot and is conversational in Russian and American Sign Language (ASL). She is married to Lt. George Dyson, a Navy pilot flying F-18E Superhornets on his third tour of duty on board the aircraft carrier USS *George Washington*.

About the AirUCI Institute

We're an Organized Research Unit (ORU) located at the University of California, Irvine. AirUCI (or Atmospheric Integrated Research at UC Irvine) is a multidisciplinary environmental research team dedicated to understanding and solving issues relating to air pollution, green technology, water quality, and climate change—on local to global scales—and the effects of these issues on human health and well-being.



To achieve these ambitious goals, we have formed an integrated team of researchers, engineers, and health scientists whose focus is to elucidate the fundamental science and impacts of pollution, energy, and climate change and their effects on society and the planet.

Headed by UCI Chemistry Professor Barbara J. Finlayson-Pitts, this ORU represents a partnership between 17 faculty at UCI and international researchers from the Academy of Sciences of the Czech Republic, Hebrew University of Jerusalem in Israel, Max Planck/BESSY Institute in Germany, and the University of Canterbury in New Zealand, together with renowned researchers from Lawrence Berkeley National Lab and the Environmental Molecular Sciences Laboratory at Pacific Northwest National Lab.

AirUCI faculty members represent UCI's School of Physical Sciences, College of Health Sciences, and the Henry Samueli School of Engineering. These faculty work individually and collaboratively using cutting-edge technology and state-of-the-art scientific and engineering approaches as they conduct research funded by such agencies as the U.S. Department of Energy, the National Science Foundation, the National Institutes of Health, the California Air Resources Board, and others.

Our research areas include the medical effects of air pollution, sustainable fuel and energy issues, earth systems affected by gases released into the atmosphere, effects of pollution on the oceans and urban water resources, the role of clouds in photochemistry, ice core sampling for atmospheric composition, and epidemiological studies related to air pollution.

AirUCI integrates our research, education, and outreach to 7-12 schools, community colleges, and the public to promote understanding of these critical topics. Our work offers new insights into the ramifications of pollution issues, health impacts, and green technology as public officials debate the impacts of these issues on society and environmental policy.

For more information, visit us at airuci.uci.edu.



An Evening with Astronaut Tracy Caldwell Dyson

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