67th ANNUAL UNDERGRADUATE RESEARCH SYMPOSIUM

Organized by the Student Activities Committee of the New York Section of the American Chemical Society

Saturday, May 4th, 2019 at CUNY Queens College

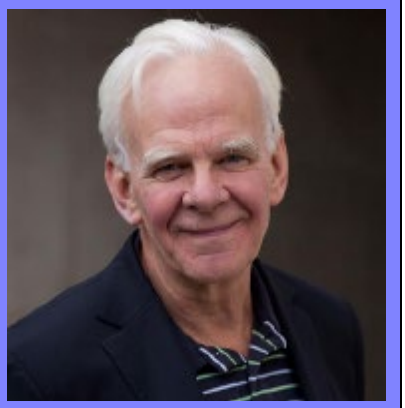
8:00 a.m. – 3:00 p.m. (breakfast, lunch, and award reception included)

Register for the event at http://www.newyorkacs.org/meetings/urs/urs.php

Keynote Speaker

Dr. James G. Anderson

Philip Weld Professor, Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA



James G. Anderson earned his B.S. in Physics from the University of Washington and his PhD in Physics and Astrogeophysics from the University of Colorado. He joined the faculty of Harvard University in 1978 as the Robert P. Burden Professor of Atmospheric Chemistry; in 1982 he was appointed the Philip S. Weld Professor of Atmospheric Chemistry. He was elected to the National Academy of Sciences, the American Philosophical Society, and the American Academy of Arts and Sciences. He is the recipient of the United Nations Vienna Convention Award for the Protection of the Ozone Layer in 2005, the United Nations Earth Day International Award, Harvard University's Ledlie Prize for Most Valuable Contribution to Science by a Member of the Faculty, and the American Chemical Society's National Award for Creative Advances in Environmental Science and Technology.

Keynote Address

Coupling Free Radical Catalysis, Climate Change, and Human Health

The chain of mechanisms linking free radical catalytic loss of stratospheric ozone, specifically over the central United States in summer, to increased climate forcing via the release of CO_2 and CH_4 from fossil fuel use, is placed in the context of irreversible changes to subsystems of the climate. This formulation of climate change is in sharp contrast with formulation of the problem in terms of "global warming". Within this context of changes to the climate structure with a time imperative set by feedbacks within subsystems of the global climate structure, we address, through a combination of observations and modeling, the mechanistic foundation defining the case for why stratospheric ozone is one of the most delicate aspects of habitability on the planet. Removal of stratospheric ozone over the polar regions in winter/spring has established that elevated ClO concentrations, engendered by heterogeneous catalytic conversion of inorganic chlorine to free radical form, govern the rate of ozone loss. This, in combination with the discovery that convective storms over the central US in summer inject water vapor deep into the stratosphere, serve to link climate forcing via increasing CO_2 and CH_4 to the catalytic halogen reaction network that is sensitive to both temperature and the water vapor concentration. Stratospheric ozone loss engenders a requisite increase in UV radiation associated with human health. Because of the smaller scale but frequent storm-induced injection events detailed by studies using advanced radar methods, accurate analyses and forecasts of ozone loss requires carefully specified observational strategies and systematic surveillance.

SIGNFICANT DATES FOR 67th URS

Deadline for Abstract Submission - **March 25, 2019** Abstract acceptance notification – April 5, 2019

Deadline for Symposium Advanced Registration – April 12, 2019

2019 Co-chair
Dr. Paul Sideris
Queensborough Community College - CUNY
psideris@qcc.cuny.edu

2019 Co-chair
Dr. Naphtali O'Connor
Lehman College - CUNY
naphtali.oconnor@lehman.cuny.edu

FREE Registration for student members of the National ACS, faculty mentors who register in advance and sponsors. For non-ACS members and guests, the registration is $35 in advance. All on-site registration is $45 for faculty, staff and guests. **Checks for the registration fee should be made out to**: **"NY ACS URS"** and sent to: Dr. Paul Sideris, Queensborough Community College, Department of Chemistry, 222-05 56th Avenue, Bayside, NY 11364.