

About Dr. Anthony Silvestri

Born in Glassboro, NJ, Dr. Silvestri graduated from Gloucester Catholic High School. He subsequently earned a B.S. in Chemistry from Villanova University in 1958 and a Ph.D. in Chemistry from Penn State in 1961.

Upon leaving Penn State, he joined Mobil as a Research Chemist at their Paulsboro (NJ) Research Laboratory. In 1963, he transferred to Mobil's Princeton Technical Center as a Senior Research Chemist and was appointed Research Associate in 1968, Manager, Analysis and Special Technology in 1973 and Manager, Catalysis Research in 1975. In 1977, Dr. Silvestri returned to Paulsboro as Manager, Process Research and Development. In 1979, he undertook a one-year assignment at Mobil's corporate headquarters in New York.

Dr. Silvestri returned to Paulsboro in 1980 as Manager of the Process Research and Technical Service Division and became Manager of the Products Research and Technical Service Division at that location in 1984. In 1989, Dr. Silvestri returned to Princeton as Vice-President with responsibility for Mobil's Corporate Environmental Health and Safety Department. He retired from that position in 1996.

During his career with Mobil, Dr. Silvestri was involved in studies on chemical kinetics, heterogeneous catalysis, synthetic fuels production, fuel and lubricant formulations, environmental issues, product safety and toxicology. He authored or co-authored about 60 papers and United States patents.

In 1984 Dr. Silvestri received the New York Catalysis Society Award for Excellence in Catalysis in recognition of his professional accomplishments and was named a Penn State Alumni Fellow in 1995.

In addition to his duties at Mobil, Dr. Silvestri has served as a member of the Board of Directors of the Chemical Industry Institute of Toxicology, has been a member of the Health and Environment General Committee of the American Petroleum Institute, served on the Advisory Council to the School of Chemical Engineering at Cornell University and was a member of the National Academy of Science Committee on control of explosive materials.

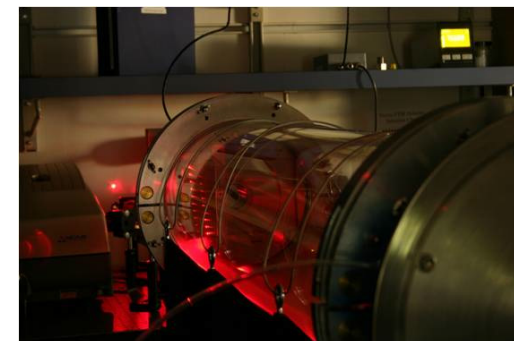


DEPARTMENT OF CHEMISTRY

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THE ANTHONY J. AND HEAND JOHNS SILVESTRI LECTURE SERIES

FROM COMBUSTION TO CLIMATE: CHEMICAL CHALLENGES FOR A CHANGING WORLD



BARBARA J. FINLAYSON-PITTS
DEPARTMENT OF CHEMISTRY
UNIVERSITY OF CALIFORNIA, IRVINE

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TUESDAY
SEPTEMBER 29TH, 2009
4:30 – 5:30 PM

213 MENDEL SCIENCE CENTER
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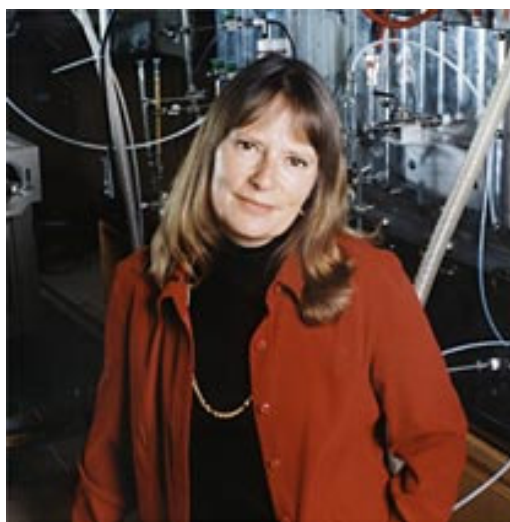
Abstract

Combustion has been known for centuries to cause air pollution, and more recently, to drive climate change. While direct emissions from fossil fuel use are of concern, in many cases, secondary air pollutants formed by chemical reactions of these emissions in air are even more important in terms of damage to human health, materials, agriculture and ecosystems. Some of these secondary air pollutants, especially ozone and particles, also play major roles in climate change. While the gas phase chemistry of air pollutants is reasonably well understood, that involving the formation and reactions of particles in air and reactions on surfaces such as buildings, vegetation etc., is not. This lecture will trace some of the history of our understanding of air pollution from local to regional and global scales, with an emphasis on key areas of current uncertainty and the challenges and new opportunities this presents for the chemical community.

Background

Dr. Barbara Finlayson-Pitts received a B.S. from Trent University in Canada in 1970. She earned a M.S. and Ph.D. from U.C. Riverside and also worked as a Postdoctoral Fellow at U.C. Riverside. She joined the faculty in the Department of Chemistry and Biochemistry at Cal State Fullerton in 1974, and in 1994 moved to U.C. Irvine where she is currently Professor of Chemistry. In 2006, she was named a U.C. Irvine Distinguished Professor and elected to the National Academy of Sciences and the American Academy of Arts and Sciences.

Her research focuses on experimental studies of reactions that occur in the atmosphere, particularly those between gases and particles and/or thin water films on surfaces such as buildings, vegetation etc. Research in her laboratory is directed primarily to elucidating the fundamental kinetics, mechanisms and photochemistry of relevant gaseous reactions as well as heterogeneous processes at the surfaces of, and in, particles.



She has a number of collaborations with faculty in the Department of Chemistry and Mechanical and Aerospace Engineering at U.C. Irvine, as well as at other institutions, that help to develop an integrated understanding of these systems from the molecular level to ambient air. Professor Finlayson-Pitts directs AirUCI, an NSF-funded Environmental Molecular Sciences Institute that integrates experiment, theory and airshed modeling studies to elucidate the nature and impact of reactions at interfaces in the atmosphere.

Professor Finlayson-Pitts is author or coauthor of more than 100 scientific publications in refereed journals, including multiple appearances in *Science* and *Nature*, and two books on atmospheric chemistry. She has mentored many students from undergraduates to graduate students, as well as postdoctoral fellows who have gone on to pursue a wide variety of careers. Professor Finlayson-Pitts' research and teaching have been recognized by a number of awards, including the 2004 American Chemistry Society Award for Creative Advances in Environmental Science & Technology, the 2008 Richard C. Tolman Medal of the Southern California Section of the American Chemical Society and the Coalition for Clean Air 2009 Carl Moyer Award for Scientific Leadership and Technical Excellence. She is also a Fellow of the American Association for the Advancement of Science (1993) and the American Geophysical Union (2002).

Her mentoring and service activities have also been recognized. She has received the U.C. Irvine Graduate Voice Faculty Mentor Award (2000) and the Orange County ACS Section "Service Through Chemistry" Award (1999). She also serves on the editorial boards of several journals, including *Atmospheric Environment* and *Analytical Chemistry*. She also is part of the Mathematical and Physical Sciences Advisory Committee for NSF, the Chemical Sciences Roundtable of the National Academy of Sciences, and the Science Advisory Committee of the Environmental Molecular Sciences Laboratory at Pacific Northwest National Laboratory.