VISITING SCIENTIST
Accomplishments

- National Research Council Associateship, National Academy of Sciences 2002-2004 Rackham Merit Fellowship, University of Michigan 1996-2001 Mellon Fellowship, University of Southern California 1993-1995 Alpha Lambda Delta, University of Southern California 1992 Trustee Scholarship, University of Southern California 1991-1996 Invited Talks Analysis for Planetary Science Research: Application to Cassini-Huygens, presented at the NASA Laboratory Astrophysics Workshop, Feb.
- 2006.

Professional Experience
University Of Utah Stansbury Park , UT Visiting Scientist 05/2014 to 09/2015

- Investigations into the Current and Primordial Atmosphere of Titan Developed an atmospheric model that considered the physical and chemical processes responsible for the distribution of 98 neutral and ion chemical species throughout the atmosphere of Titan, Saturn's largest moon.
- This model was used to make predictions about Titan's composition many of which were later corroborated by the Cassini-Huygens mission, and helped interpret the data received by that mission.
- Investigated science questions stemming from analysis of Mars Science Laboratory (MSL) data from Martian surface Updated Mars chemical model to include chlorine chemistry and products from radiolysis Submitted for publication study on Mars radiolysis-generated chlorine chemistry.

University Of Minnesota Minneapolis , MN Lecturer 09/2010 to 05/2014

- Taught classes for the Physics and Astronomy Department at the University of Southern California.
- Held office hours to support students in mastering material.
- Classes included:.
- ASTR 100 - The Universe.

University Of Utah West Valley City , UT Visiting Scientist 05/2012 to 08/2012

- Designed study on chemical mechanisms for haze formation in Early Earth, relate to present-day Titan.
- Presented results at comparative planetology workshop in Boulder, CO.

Verizon Media (Former Oath) Dallas , TX Research Scientist 09/2009 to 09/2014

- Coupled haze microphysics to chemistry module in Titan Global Climate Model (GCM).
- Expanded chemical model, coupled haze microphysical model to study effects of ring-shadow in Saturn's atmosphere.
- Conducted data analysis in the Geostationary Operational Environmental Satellite R-Series (GOES-R) program.

University Of Utah Cedar City , UT Visiting Scientist 03/2009 to 09/2009

- Developed a model to study haze-producing pathways in early Titan history and compare.
- Presented results at Titan Through Time workshop in Greenbelt, MD.

Planet Pharma Crystal Lake , IL Scientist 03/2004 to 10/2009

- Constructed chemical module to Titan GCM model Optimized parallelization for GCM model Member of NASA Astrobiology Program Review Panel Served as member of science team on NASA Titan & Enceladus $1B Mission Study Served in advisory capacity on Cassini Ultraviolet Imaging Spectrograph (UVIS) instrument team.

Education and Training
PH.D 2002 ATMOSPHERIC AND SPACE SCIENCES
BACHELOR OF SCIENCE 1996 University of Michigan DOUBLE MAJOR IN ASTRONOMY AND MATHEMATICS , City , State , USA University of Southern California , City , State , USA PHYS 151 - Fundamentals of Physics I: Mechanics and Thermodynamics PHYS 152 - Fundamentals of Physics II: Electricity and Magnetism PHYS 153 - Fundamentals of Physics III: Optics and Modern Physics
Publications
Wilson, E.H., S.K. Atreya, R.I. Kaiser, and P.R. Mahaffy, Perchlorate formation on Mars by radiolysis, J. Geophys. Res., submitted, 2015 Wilson, E.H. and S.K. Atreya, Titan's carbon budget and the case of the missing ethane, J. Phys. Chem., 113, 11221-11226, 2009 Friedson, A.J., R.A. West, E.H. Wilson, F. Oyafuso, and G.S. Orton, A global model of Titan's atmosphere and surface, Planet. Space Sci., 57, 1931-1949, 2009 Atreya, S.K., E.Y. Adams, H.B. Niemann, J.E. Demick-Montelara, T.C. Owen, M. Fulchignoni, F. Ferri, and E.H. Wilson, Titan's methane cycle, Planet. Space Sci., 54, 1177-1187, 2006 Wilson, E.H. and S.K. Atreya, The current state of modeling the photochemistry of Titan's mutually-dependent atmosphere and ionosphere, J. Geophys. Res., 109, E06002, doi:10.1029/2003JE002181, 2004 Wilson, E.H. and S.K. Atreya, Chemical sources of haze formation in Titan's atmosphere, Planet. Space Sci., 51, 1017-1033, 2003 Wilson, E.H., S.K. Atreya, and A. Coustenis, Mechanisms for the formation of benzene in the atmosphere of Titan, J. Geophys. Res., 108, 5014, doi:10.1029/2002JE001896, 2003 Wilson, E.H. and S.K. Atreya, Sensitivity studies of methane photolysis and its impact on hydrocarbon chemistry in the atmosphere of Titan, J. Geophys. Res., 105, 20263-20273, 2000 PRESENTATIONS Last six years Wilson, E.H., S.K. Atreya, R.I. Kaiser, and P.R. Mahaffy, Perchlorate Formation on Mars by Radiolysis, AGU Meeting, San Francisco, CA, December 2015 Wilson, E.H. and S.K. Atreya, Mars Perchlorate Formation Scenarios, MSL Team Meeting, Paris, FR, June 2015 Wilson, E.H. and S.K. Atreya, Explaining

the O2 Profile on Mars, SAM-MSL Team Meeting, Pasadena, CA, January 2015 Wilson, E.H. and S.K. Atreya, Conditions for Haze Formation in Planetary Atmospheres - A Comparative Study Between the Atmospheres of Early Earth and Present-Day Titan, Boulder, CO, June 2012 Edgington, S.G., S.K. Atreya, E.H. Wilson, R.A. West, K.H. Baines, G.L. Bjoraker, L.N. Fletcher, T.W. Momary, Photochemistry in Saturn's Ring-Shadowed Atmosphere: Production Rates of Key Atmospheric Molecules and Haze Observations, Reno, NV, October, 2012 Wilson, E.H. and S.K. Atreya, Efficiency of Haze Production in Titan's Primordial Atmosphere, presented at the Titan Through Time Workshop, Greenbelt, MD, April 2010

Skills

chemistry, data analysis, Imaging, Mars, office, 98, Physics II, Physics, Physics I, Physics III, processes, producing, publication, shadow, composition