Hope
A
Michelsen

Technical Staff Member
Combustion and Atmospheric Chemistry

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SHORT BIO:

Hope Michelsen has been a technical staff member in the Combustion Research Facility at since 1999. Her background is in physical, atmospheric, and combustion chemistry, and her current research program focuses on understanding the formation and evolution of combustion-generated particles in combustion systems and the atmosphere and developing laser-based techniques for detecting these particles. She is also studying the impact of short-lived climate forcers, such as black carbon and methane, on regional Arctic and global climate. Her research experience includes gas-surface scattering experiments, atmospheric modeling, soot-formation studies, combustion-diagnostics development, atmospheric black-carbon measurements, climate feedback mechanisms, and greenhouse-gas source attribution. She received an A.B. in Chemistry from Dartmouth College and a Ph.D. in Chemistry with a minor in Physics from Stanford University. She completed an NSF postdoctoral fellowship at Harvard University and worked at Atmospheric and Environmental Research, Inc. before joining the technical staff at Sandia.

RESEARCH INTERESTS

Soot formation, evolution, oxidation, and detection

Atmospheric fate and impact of black carbon
Greenhouse-gas source attribution

EDUCATION

A.B., Major in Chemistry, Dartmouth College, 1984.

Ph.D., Major in Chemistry, Minor in Physics, Stanford University, 1993.

Postdoctoral training, Earth and Planetary Sciences, Harvard University, 1997.

AWARDS, HONORS AND MEMBERSHIPS

Vice-chair, Chair Gordon Research Conference on Laser Diagnostics in Combustion	8/15, 8/17
Alameda County Women's Hall of Fame Inductee	1/13
International Workshop on Laser-Induced Incandescence Advisory Committee	9/05 - present
Topical editor for Applied Optics (Optical Society of America)	5/02 - 11/05
Award for Excellence in Reviewing (American Geophysical Union)	12/03
SPARC international water vapor assessment panel	3/99 - 3/00
SAGE III (satellite/space station solar occultation instrument) science team (NASA)	3/98 - 3/01
TOMS (Total Ozone Mapping Spectrometer instrument) science team (NASA)	1/98 - 10/01
NASA Group Achievement Award: POLARIS (ER-2 aircraft mission) theory team	3/97 - 9/97
SAGE II (satellite solar occultation instrument) science team (NASA)	1/96 - 4/99
NASA Group Achievement Award: ASHOE/MAESA (ER-2 aircraft mission) team	7/94 - 11/94
ATMOS (space shuttle FTIR solar occultation instrument) science team (NASA)	3/94 - present
Postdoctoral Research Fellowship in Chemistry (National Science Foundation)	2/93 - 3/95
Global Change Distinguished Postdoctoral Fellowship (Dept. of Energy) - declined	6/92
Nellie Yeoh Whetten Award (American Vacuum Society)	11/92
Student Award (American Vacuum Society)	11/92
Chandler T. White 1916 Research Prize (Dartmouth College)	5/84

SELECTED PUBLICATIONS & PATENTS