Dr. Jennifer D. Small Griswold

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Research Interests

Cloud Microphysics, Aerosols and Climate, Satellite Remote Sensing of Clouds and Aerosol

A. Education

- University of California, Santa Cruz, Santa Cruz CA
  Ph.D. Earth & Planetary Sciences, June 2009
  Thesis: Observational studies of the microphysics and dynamics of warm cumulus
- Rutgers, The State University of New Jersey, New Brunswick, NJ
  B.S. Meteorology, May 2002
  B.S. Environmental Science, May 2002

B. Experience

Assistant Professor, Department of Meteorology, University of Hawaii, Current Appointment

Research focusing on the analysis of cloud-aerosol-precipitation interactions using satellite, aircraft and global climate model data. Responsible for teaching Introductory Meteorology, Cloud Physics and Satellite Meteorology courses.

Postdoctoral Researcher, Jet Propulsion Laboratory, 2009-2012

Influence of aerosols on clouds, precipitation and climate using multi-satellite data analyses and application of satellite observations to evaluate global climate. Research supervised by Dr. Jonathan Jiang and Hui Sui.

Graduate Student Researcher, UC Santa Cruz, 2002-2009

Observational studies of warm clouds using a flight phase Doppler interferometer to measure cloud drop size distributions and drop velocity for understanding the microphysical processes of precipitation initiation and mixing in warm clouds. Research supervised by Prof. Patrick Chuang.

C. Relevant Publications

- Norgren, M.S., **J.D. Small**, H.H. Jonsson and P.Y. Chuang, 2016: Observational estimates of detrainment and entrainment in non-precipitation shallow cumulus, *Atmos. Chem. Phys.*, **16**, 21-33, doi:10.5194/acp-16-21-2016
- **Small, J.D.,** P.Y. Chuang, and H. Jonsson, 2013: Microphysical imprint of entrainment in warm cumulus*, Tellus B*, **65**, 19922, http://dx.doi.org/10.3402/tellusb.v65i0.19922
- **Small, J.D.,** J. H. Jiang, H. Su, and Chengxing Zhai, 2011: Relationship between aerosol and cloud fraction over Australia*, Geophys. Res. Lett.*, 38, L23802, doi:10.1029/2011GL049404.
- **Small, J.D.,** P.Y. Chuang, G. Feingold, H. Jiang, 2009: Can aerosol decrease cloud lifetime? *Geophys. Res. Lett.*, 36, L16806, doi:10.1029/2009GL038888.
- **Small, J.D.** and P.Y. Chuang, 2008: New observations of precipitation initiation in warm cumulus clouds, *J. Atmos. Sci.*, **65**, 2972-2982, doi:10.1175/2008JAS2600.1

- Chuang, P. Y., E. W. Saw, **J. D. Small**, R. A. Shaw, C.M. Sipperley, G. A. Payne, and W. D. Bachalo, 2008. Airborne phase Doppler interferometry for cloud microphysical measurements, *Aerosol Sci. Tech.*, 42, 685-703.

D. Grants and Awards

- *NSF CAREER:* A Comprehensive Investigation into Cloud-Aerosol Interactions Using Satellite, Aircraft and Model Data, Award Effective July 1, 2013 - June 30, 2018, ~$569,600
- *U. Hawai'i SEED Diversity and Equity Initiative Grant:* Women as Scientists Colloquium, $500
- Outstanding Postdoctoral Research Award, 2011

E. Synergistic Activities

Dr. Small Griswold is the newest faculty member in the Atmospheric Sciences Department at the University Of Hawaii focusing on cloud microphysics, aerosol-cloud-climate interactions and, aircraft observations of clouds, and satellite remote sensing of clouds and aerosol. She recently acquired a new Dual-Range Flight Probe phase Doppler interferometer (FPDR-PDI) for use in local, mainland and international field projects studying cloud microphysics and precipitation processes. Along with developing her research group, Dr. Small Griswold will be teaches a variety of introductory undergraduate and graduate level courses. Prior to the University of Hawaii, during her postdoctoral position at JPL from 2009-2012, Dr. Small maintained an active research career, winning the "Outstanding Postdoctoral Research Award" in 2011. Dr. Small Griswold's research while at JPL has focused on the interaction between aerosols and clouds using multi-platform satellite data, predominately from NASA's A-Train satellite constellation. Simultaneously, Dr. Small Griswold taught several courses ("Weather and Climate" and "Physical Geology") as Adjunct Faculty at Cerritos Community College and served as a "Subject Matter Expert in Meteorology" for South University Online. Dr. Small Griswold also mentored high school and undergraduate interns through JPL's summer internship program. Prior to JPL, Dr. Small Griswold worked on aircraft observations of clouds at the University of California Santa Cruz. She was also a Graduate Fellow in the NSF sponsored "Center for Informal Learning and Schools" program from 2005-2007 conducting science education research on teaching climate science through writing, rather than through traditional lectures. She also routines participates in community outreach to expose young women and minorities to Science Technology, Engineering and Math career opportunities through the Expanding Your Horizons Network and Conferences (2003-present).

F. Collaborators & Other Affiliations.

(i) Collaborators Last 48 months

Tony Clark, *Department of Oceanography, University of Hawaii – Manoa, Honolulu, HI*
William Bachalo, *Artium Technologies Inc, Sunnyvale, CA*
Jonathan H. Jiang, *Jet Propulsion Laboratory*, *CalTech*, *Pasadena*, *CA*
Hui Su, *Jet Propulsion Laboratory*, *CalTech*, *Pasadena*, *CA*
Chengxing Zhai, *Jet Propulsion Laboratory*, *CalTech*, *Pasadena*, *CA*
Patrick Y. Chuang, *Earth & Planetary Science Dept., University of California Santa Cruz, CA*
Dione Rossiter, *Earth & Planetary Science Dept., University of California Santa Cruz, CA*
Graham Feingold, *NOAA ESRL Chemical Sciences Division*, CO
Hongli Jiang, *Cooperative Institute for Research in the Atmosphere*, *Colorado State University*, *CO*
Haflidi Jonsson, *Center for Interdisciplinary Remotely Piloted Aircraft Studies, Monterey, CA*

(ii) Ph.D. and Post-Doctoral Advisors

Patrick Y. Chuang, *Earth & Planetary Science Dept., UCSanta Cruz, CA* (doctoral)
Jonathan H. Jiang, *Jet Propulsion Laboratory, CalTech, Pasadena, CA* (postdoctoral)
Hui Su, *Jet Propulsion Laboratory, CalTech, Pasadena, CA* (postdoctoral)