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EDUCATION

- Ph.D. *Atmospheric Science* (2009)
Colorado State University, Fort Collins, Colorado
Dissertation: ‘*Relationships Between Aerosol, Cloud, and Precipitation as Observed from the A-Train Constellation of Spaceborne Sensors*’
Co-Advisors: Prof. Graeme Stephens and Prof. Christian Kummerow
- M.S. *Atmospheric Science* (2005)
Colorado State University, Fort Collins, Colorado
Thesis: ‘*Modeling Polarized Radiances Towards an Aerosol Retrieval Method*’
Advisor: Prof. Graeme Stephens
- B.A. *Physics* (Major), *Mathematics* (Minor) (2002)
The Colorado College, Colorado Springs, Colorado

POSITIONS

- Jet Propulsion Laboratory, Pasadena CA
- Atmospheric Observing System, Doppler Radar Instrument Scientist (2021-Present)
 - CloudSat Deputy Principal Investigator (2015-Present)
 - Scientist, Aerosol and Clouds group (2015-Present)
 - Scientist, Climate Physics Group (2011-2015)
- Joint Institute for Regional Earth System Science and Engineering, Los Angeles CA
- Assistant Researcher (2013-Present)
- Department of Atmospheric Science, Colorado State University
- Research Scientist (2009-2011)
 - Graduate Research Assistant (2003-2009)
 - Graduate Teaching Assistant, Atmospheric Radiation (Spring 2007, Spring 2009)

AWARDS

- JPL Voyager Award (2019)
- NASA Team Excellence Award: Satellite Needs Assessment Team (2017)
- CSU Atmospheric Science Alumni Award: For outstanding research by a senior PhD student (2009)
- Outstanding Student Paper Award (AGU Fall Meeting) (2008)
- NASA Earth and Space Science Fellowship (NESSF) (2007-2009)
- Ball Aerospace Fellow, Colorado State University (2003-2005)

RESEARCH INTERESTS

- Remote sensing of clouds, precipitation, water vapor and aerosol
- Evaluation of climate and weather model physics
- Global climate and energetics

PEER REVIEWED PUBLICATIONS

Summary:

H-index = 28

Total Articles = 97

First Author Articles = 12

2024

Graham Feingold et al. ,Physical science research needed to evaluate the viability and risks of marine cloud brightening.Sci. Adv.10,eadi8594(2024).DOI:10.1126/sciadv.adi8594.

Smalley, K. M., **Lebsock**, M. D., & Eastman, R. (2024). Diurnal patterns in the observed cloud liquid water path response to droplet number perturbations. *Geophysical Research Letters*, 51, e2023GL107323. <https://doi.org/10.1029/2023GL107323>.

Millán, L. F., **Lebsock**, M. D., Cooper, K. B., Siles, J. V., Dengler, R., Rodriguez Monje, R., Nehrir, A., Barton-Grimley, R. A., Collins, J. E., Robinson, C. E., Thornhill, K. L., and Vömel, H.: Water vapor measurements inside clouds and storms using a differential absorption radar, *Atmos. Meas. Tech.*, 17, 539–559, <https://doi.org/10.5194/amt-17-539-2024>, 2024.

2023

Lebsock, M. D. and Witte, M.: Quantifying the dependence of drop spectrum width on cloud drop number concentration for cloud remote sensing, *Atmos. Chem. Phys.*, 23, 14293–14305, <https://doi.org/10.5194/acp-23-14293-2023>, 2023.

Kurowski, M. J., and Coauthors, 2023: Synthetic Observations of the Planetary Boundary Layer from Space: A Retrieval Observing System Simulation Experiment Framework. *Bull. Amer. Meteor. Soc.*, **104**, E1999–E2022, <https://doi.org/10.1175/BAMS-D-22-0129.1>.

Smalley, M. A., M. D. Lebsock, and J. Teixeira, 2023: Quantifying the Impact of Vertical Resolution on the Representation of Marine Boundary Layer Physics for Global-Scale Models. *Mon. Wea. Rev.*, **151**, 2977–2992, <https://doi.org/10.1175/MWR-D-23-0078.1>.

Schulte, R. M., Lebsock, M. D., and Haynes, J. M.: What CloudSat cannot see: liquid water content profiles inferred from MODIS and CALIOP observations, *Atmos. Meas. Tech.*, 16, 3531–3546, <https://doi.org/10.5194/amt-16-3531-2023>, 2023.

2022

Jeong, J.-H., Witte, M. K., Glenn, I. B., Smalley, M., Lebsock, M. D., Lamer, K., & Zhu, Z. (2022). Distinct dynamical and structural properties of marine stratocumulus and shallow cumulus clouds in the Eastern North Atlantic. *Journal of Geophysical Research: Atmospheres*, 127, e2022JD037021. <https://doi.org/10.1029/2022JD037021>.

Lebsock, M., H. Takahashi, R. Roy, M. J. Kurowski, and L. Oreopoulos, 2022: Understanding Errors in Cloud Liquid Water Path Retrievals Derived from CloudSat Path-Integrated

Attenuation. *J. Appl. Meteor. Climatol.*, **61**, 955–967, <https://doi.org/10.1175/JAMC-D-21-0235.1>.

Oreopoulos, L., N. Cho, D. Lee, M. **Lebsock**, and Z. Zhang, 2022: Assessment of Two Stochastic Cloud Subcolumn Generators Using Observed Fields of Vertically Resolved Cloud Extinction. *J. Atmos. Oceanic Technol.*, **39**, 1229–1244, <https://doi.org/10.1175/JTECH-D-21-0166.1>.

Suselj, K., Smalley, M., **Lebsock**, M. D., Kurowski, M. J., Witte, M. K., & Teixeira, J. (2022). Coupling warm rain with an Eddy Diffusivity/Mass Flux parameterization: 1. Model description and validation. *Journal of Advances in Modeling Earth Systems*, 14, e2021MS002736. <https://doi.org/10.1029/2021MS002736>.

Smalley, M. A., Suselj, K., **Lebsock**, M. D., & Witte, M. K. (2022). Coupling warm rain with an eddy diffusivity/mass flux parameterization: 2. Sensitivities and comparison to observations. *Journal of Advances in Modeling Earth Systems*, 14, e2021MS002729. <https://doi.org/10.1029/2021MS002729>.

Smalley, K. M., **Lebsock**, M. D., Eastman, R., Smalley, M., and Witte, M. K.: A Lagrangian analysis of pockets of open cells over the southeastern Pacific, *Atmos. Chem. Phys.*, **22**, 8197–8219, <https://doi.org/10.5194/acp-22-8197-2022>, 2022.

Zhang, Z., Oreopoulos, L., **Lebsock**, M. D., Mechem, D. B., & Covert, J. (2022). Understanding the microphysical control and spatial-temporal variability of warm rain probability using CloudSat and MODIS observations. *Geophysical Research Letters*, **49**, e2022GL098863. <https://doi.org/10.1029/2022GL098863>.

Richardson, M. T., Roy, R. J., & **Lebsock**, M. D. (2022). Satellites suggest rising tropical high cloud altitude: 2002–2021. *Geophysical Research Letters*, **49**, e2022GL098160. <https://doi.org/10.1029/2022GL098160>

Richardson, M. T., Thompson, D. R., Kurowski, M. J., and **Lebsock**, M. D.: New sampling strategy mitigates a solar-geometry-induced bias in sub-kilometre vapour scaling statistics derived from imaging spectroscopy, *Atmos. Meas. Tech.*, **15**, 117–129, <https://doi.org/10.5194/amt-15-117-2022>, 2022.

R. J. Roy *et al.*, "First Airborne Measurements With a G-Band Differential Absorption Radar," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1-15, 2022, Art no. 5108115, doi: 10.1109/TGRS.2021.3134670.

Diamond MS, Gettelman A, **Lebsock** MD, McComiskey A, Russell LM, Wood R, Feingold G. Opinion: To assess marine cloud brightening's technical feasibility, we need to know what to study-and when to stop. *Proc Natl Acad Sci U S A*. 2022 Jan 25;119(4):e2118379119. doi: 10.1073/pnas.2118379119.

2021

Cooper K. B. *et al.*, "G-Band Radar for Humidity and Cloud Remote Sensing," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 59, no. 2, pp. 1106-1117, Feb. 2021, doi: 10.1109/TGRS.2020.2995325.

Takahashi, H., **Lebsock**, M., Luo, Z. J., Masunaga, H., & Wang, C. (2021). Detection and Tracking of Tropical Convective Storms Based on Globally Gridded Precipitation Measurements: Algorithm and Survey over the Tropics, *Journal of Applied Meteorology and Climatology*, **60**(3), 403-421.

Thompson, D. R., Kahn, B. H., Brodrick, P. G., **Lebsock**, M. D., Richardson, M., and Green, R. O.: Spectroscopic imaging of sub-kilometer spatial structure in lower-tropospheric water

vapor, *Atmos. Meas. Tech.*, 14, 2827–2840, <https://doi.org/10.5194/amt-14-2827-2021>, 2021.

Richardson, M. T., Thompson, D. R., Kurowski, M. J., and **Lebsock**, M. D.: Boundary layer water vapour statistics from high-spatial-resolution spaceborne imaging spectroscopy, *Atmos. Meas. Tech.*, 14, 5555–5576, <https://doi.org/10.5194/amt-14-5555-2021>, 2021.

Roy, R. J., **Lebsock**, M., and Kurowski, M. J.: Spaceborne differential absorption radar water vapor retrieval capabilities in tropical and subtropical boundary layer cloud regimes, *Atmos. Meas. Tech.*, 14, 6443–6468, <https://doi.org/10.5194/amt-14-6443-2021>, 2021.

R. J. Roy *et al.*, "First Airborne Measurements With a G-Band Differential Absorption Radar," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1-15, 2022, Art no. 5108115, doi: 10.1109/TGRS.2021.3134670.

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Battaglia, A. et al. (2020). Spaceborne cloud and precipitation radars: Status, challenges, and ways forward. *Reviews of Geophysics*, 58, e2019RG000686. <https://doi.org/10.1029/2019RG000686>

Millán, L., Roy, R., and **Lebsock**, M.: Assessment of global total column water vapor sounding using a spaceborne differential absorption radar, *Atmos. Meas. Tech.*, 13, 5193–5205, <https://doi.org/10.5194/amt-13-5193-2020>, 2020.

Suselj, K., Posselt, D., Smalley, M., **Lebsock**, M. D., & Teixeira, J. (2020). A New Methodology for Observation-Based Parameterization Development, *Monthly Weather Review*, 148(10), 4159-4184

Richardson, M., **Lebsock**, M. D., McDuffie, J., and Stephens, G. L.: A new Orbiting Carbon Observatory 2 cloud flagging method and rapid retrieval of marine boundary layer cloud properties, *Atmos. Meas. Tech.*, 13, 4947–4961, <https://doi.org/10.5194/amt-13-4947-2020>, 2020.

Roy, R. J., **Lebsock**, M., Millán, L., & Cooper, K. B. (2020). Validation of a G-Band Differential Absorption Cloud Radar for Humidity Remote Sensing, *Journal of Atmospheric and Oceanic Technology*, 37(6), 1085-1102.

Hotta, H., Suzuki, K., Goto, D., & **Lebsock**, M. (2020). Climate Impact of Cloud Water Inhomogeneity through Microphysical Processes in a Global Climate Model, *Journal of Climate*, 33(12), 5195-5212

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Takahashi, H., **Lebsock**, M. D., Richardson, M., Marchand, R., & Kay, J. E. (2019). When will spaceborne cloud radar detect upward shifts in cloud heights? *Journal of Geophysical Research: Atmospheres*, 124, 7270–7285. <https://doi.org/10.1029/2018JD030242>.

Stephens, GL, Christensen, M, Andrews, T, et al. Cloud physics from space. *Q J R Meteorol Soc.* 2019; 1– 22. <https://doi.org/10.1002/qj.3589>.

Smalley, M., K. Suselj, M. **Lebsock**, and J. Teixeira, 2019: A Novel Framework for Evaluating and Improving Parameterized Subtropical Marine Boundary Layer Cloudiness. *Mon. Wea. Rev.*, 147, 3241–3260, <https://doi.org/10.1175/MWR-D-18-0394.1>

- Richardson, M., Leinonen, J., Cronk, H. Q., McDuffie, J., **Lebsock**, M. D., and Stephens, G. L.: Marine liquid cloud geometric thickness retrieved from OCO-2's oxygen A-band spectrometer, *Atmos. Meas. Tech.*, 12, 1717-1737, <https://doi.org/10.5194/amt-12-1717-2019>, 2019.
- Stephens, G. L., Smalley, M. A., **Lebsock**, M. D. (2019). The cloudy nature of tropical rains. *Journal of Geophysical Research: Atmospheres*, 124, 171– 188. <https://doi.org/10.1029/2018JD029394>.
- Millán, L. F., **Lebsock**, M. D., and Teixeira, J.: Variability of bulk water vapor content in the marine cloudy boundary layers from microwave and near-infrared imagery, *Atmos. Chem. Phys.*, 19, 8491–8502, <https://doi.org/10.5194/acp-19-8491-2019>, 2019.
- Jiang, J. H., Yue, Q., Su, H., Kangaslahti, P., **Lebsock**, M., Reising, S., et al. (2019). Simulation of remote sensing of clouds and humidity from space using a combined platform of radar and multifrequency microwave radiometers. *Earth and Space Science*, 6, 1234– 1243. <https://doi.org/10.1029/2019EA000580>
- Eastman, R., M. **Lebsock**, and R. Wood, 2019: Warm Rain Rates from AMSR-E 89-GHz Brightness Temperatures Trained Using CloudSat Rain-Rate Observations. *J. Atmos. Oceanic Technol.*, **36**, 1033–1051, <https://doi.org/10.1175/JTECH-D-18-0185.1>

2018

- Stephens, G. L., Hakuba, M. Z., Webb, M. J., **Lebsock**, M., Yue, Q., Kahn, B. H., et al. (2018). Regional intensification of the tropical hydrological cycle during ENSO. *Geophysical Research Letters*, 45, 4361–4370. <https://doi.org/10.1029/2018GL077598>
- Roy, R. J., Lebsock, M., Millán, L., Dengler, R., Rodriguez Monje, R., Siles, J. V., and Cooper, K. B.: Boundary-layer water vapor profiling using differential absorption radar, *Atmos. Meas. Tech.*, 11, 6511-6523, <https://doi.org/10.5194/amt-11-6511-2018>, 2018.
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- Greenwald, T. J., Bennartz, R., Lebsock, M., & Teixeira, J. (2018). An Uncertainty Data Set for Passive Microwave Satellite Observations of Warm Cloud Liquid Water Path. *Journal of Geophysical Research: Atmospheres*, 123, 3668–3687. <https://doi.org/10.1002/2017JD027638>
- Naud, C.M., J.F. Booth, M. Lebsock, and M. Grecu, 2018: Observational Constraint for Precipitation in Extratropical Cyclones: Sensitivity to Data Sources. *J. Appl. Meteor. Climatol.*, **57**, 991–1009, <https://doi.org/10.1175/JAMC-D-17-0289.1>
- Stephens, G., D. Winker, J. Pelon, C. Trepte, D. Vane, C. Yuhas, T. L'Ecuyer, and M. Lebsock, 2018: CloudSat and CALIPSO within the A-Train: Ten Years of Actively Observing the Earth System. *Bull. Amer. Meteor. Soc.*, **99**, 569–581, <https://doi.org/10.1175/BAMS-D-16-0324.1>
- Cooper, K.B. et al., "Atmospheric Humidity Sounding Using Differential Absorption Radar Near 183 GHz," in *IEEE Geoscience and Remote Sensing Letters*, vol. 15, no. 2, pp. 163-167, Feb. 2018. doi: 10.1109/LGRS.2017.2776078

2017

- Elsaesser, G.S., C.W. O'Dell, M.D. Lebsock, R. Bennartz, T.J. Greenwald, and F.J. Wentz, 2017: The Multisensor Advanced Climatology of Liquid Water Path (MAC-LWP). *J. Climate*, **30**, 10193–10210, <https://doi.org/10.1175/JCLI-D-16-0902.1>
- Lebsock**, M.D., L'Ecuyer, T.S. & Pincus, R. *Surv Geophys* (2017): An Observational View of Relationships Between Moisture Aggregation, Cloud, and Radiative Heating Profiles, <https://doi.org/10.1007/s10712-017-9443-1>
- Nehrir, A.R., Kiemle, C., **Lebsock**, M.D. et al. *Surv Geophys* (2017) Emerging Technologies and Synergies for Airborne and Space-Based Measurements of Water Vapor Profiles, 38: 1445. <https://doi.org/10.1007/s10712-017-9448-9>.
- Kahn, B. H., Matheou, G., Yue, Q., Fauchez, T., Fetzer, E. J., **Lebsock**, M., Martins, J., Schreier, M. M., Suzuki, K., and Teixeira, J.: An A-train and MERRA view of cloud, thermodynamic, and dynamic variability within the subtropical marine boundary layer, *Atmos. Chem. Phys.*, **17**, 9451-9468, <https://doi.org/10.5194/acp-17-9451-2017>, 2017.
- Takahashi, H., M. **Lebsock**, K. Suzuki, G. Stephens, and M. Wang (2017), An investigation of microphysics and subgrid-scale variability in warm-rain clouds using the A-Train observations and a multiscale modeling framework, *J. Geophys. Res. Atmos.*, **122**, 7493–7504, doi:10.1002/2016JD026404.
- Kalmus, P. and M. **Lebsock** (2017), Correcting Biased Evaporation in CloudSat Warm Rain. *IEEE Transactions on Geoscience and Remote Sensing*. PP. 1-11. 10.1109/TGRS.2017.2722469.

2016

- Leinonen, J., M. D. **Lebsock**, L. Oreopoulos, and N. Cho (2016), Interregional differences in MODIS-derived cloud regimes, *J. Geophys. Res. Atmos.*, **121**, 11,648–11,665, doi:10.1002/2016JD025193.
- Leinonen, J., M. Lebsock, G. Stephens, and K. Suzuki, 2016: Improved Retrieval of Cloud Liquid Water from CloudSat and MODIS. *J. Appl. Meteor. Climatol.*, **55**, 1831–1844, doi: 10.1175/JAMC-D-16-0077.1.
- Christensen, M., A. Behrangi, T. L'ecuyer, N. Wood, M. **Lebsock**, and G. Stephens, 2016: Arctic Observation and Reanalysis Integrated System: A New Data Product for Validation and Climate Study. *Bull. Amer. Meteor. Soc.*, **97**, 907–915, doi: 10.1175/BAMS-D-14-00273.1.
- Millán, L., **Lebsock**, M., Livesey, N., and Tanelli, S., 2016: Differential absorption radar techniques: water vapor retrievals, *Atmos. Meas. Tech.*, **9**, 2633-2646, doi:10.5194/amt-9-2633-2016.
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- Behrangi, A., et al. 2016: Status of high-latitude precipitation estimates from observations and reanalyses, *J. Geophys. Res. Atmos.*, **121**, 4468–4486, doi:10.1002/2015JD024546.
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2015

- Lebsock**, M. D., Suzuki, K., Millán, L. F., and Kalmus, P. M. (2015), The feasibility of water vapor sounding of the cloudy boundary layer using a differential absorption radar technique, *Atmos. Meas. Tech.*, **8**, 3631-3645, doi:10.5194/amt-8-3631-2015.
- Cho, H.-M., Z. Zhang, K. Meyer, M. **Lebsock**, S. Platnick, A. Ackerman, L. DiGiralamo, L. Labonnote, C. Cornet, J. Riedi, R. Holz (2015), Frequency and causes of failed MODIS cloud property retrievals for liquid phase clouds over global oceans, *J. Geophys. Res. Atmos.*, **120**, 4132–4154. doi:10.1002/2015JD023161.
- Sanghavi, S., **Lebsock**, M., and Stephens, G.: Sensitivity analysis of polarimetric O₂ A-band spectra for potential cloud retrievals using OCO-2/GOSAT measurements (2015), *Atmos. Meas. Tech.*, **8**, 3601-3616, doi:10.5194/amt-8-3601-2015.
- Leinonen, J., **Lebsock**, M. D., Tanelli, S., Suzuki, K., Yashiro, H., and Miyamoto, Y.: Performance assessment of a triple-frequency spaceborne cloud–precipitation radar concept using a global cloud-resolving model (2015), *Atmos. Meas. Tech.*, **8**, 3493-3517, doi:10.5194/amt-8-3493-2015.
- Kubar, T.L., G.L. Stephens, **M. Lebsock**, V.E. Larson, and P.A. Bogenschutz, (2015), Regional Assessments of Low Clouds against Large-Scale Stability in CAM5 and CAM-CLUBB Using MODIS and ERA-Interim Reanalysis Data. *J. Climate*, **28**, 1685–1706. doi: <http://dx.doi.org/10.1175/JCLI-D-14-00184.1>

2014

- Kalmus, P., M. **Lebsock**, J. Teixeira (2014), Observational Boundary Layer Energy and Water Budgets of the Stratocumulus-to-Cumulus Transition (2014), *J. Climate*, **27**(24), doi:10.1175/jcli-d-14-00242.1.
- Millán, L., M. **Lebsock**, N. Livesey, S. Tanelli, and G. Stephens (2014), Differential absorption radar techniques: Surface pressure. *Atmos. Meas. Tech.*, **7**, 3959–3970, doi:10.5194/amt-7-3959-2014.
- Lebsock**, M. and H. Su (2014), Application of Active Spaceborne Remote Sensing for Understanding Biases Between Passive Cloud Water Path Retrievals. *J. Geophys. Res. Atmos.* **119**, 8962-8979, DOI: 10.1002/2014JD021568.
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2013

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2012

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2011

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2010

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2009

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2008

Lebsock, M.D., G.L. Stephens, and C. Kummerow (2008), Multisensor satellite observations of aerosol effects on warm clouds, *J. Geophys. Res.*, 113, D15205, doi:10.1029/2008JD009876.
Stephens G.L., D.G. Vane, S. Tanelli, E. Im, S. Durden, M. Rokey, D. Reinke, P. Partain, G.G. Mace, R. Austin, T. L'Ecuyer, J. Haynes, M.D. **Lebsock**, K. Suzuki, D. Waliser, D. Wu, J. Kay, A. Gettleman, Z. Wang, R. Marchand (2008), The CloudSat Mission: Performance and early science after the first year of operation, *J. Geophys. Res.*, 113, D00A18, doi:10.1029/2008JD009982.

2007

Lebsock, M.D., T.S. L'Ecuyer, and G.L. Stephens (2007), Information content of near-infrared spaceborne multiangular polarization measurements for aerosol retrievals, *J. Geophys. Res.*, 112, D14206, doi:10.1029/2007JD008535.

BOOK CHAPTERS

Lebsock, M., D., T. S. L'Ecuyer, N. B. Wood, J. M. Haynes and M. A. Smalley, 'Status of the CloudSat Mission, in Satellite Precipitation Measurement', Eds: Vincenzo Levizzani, Chris Kidd, Dalia Kirschbaum, Chris Kummerow, Kenji Kummerov and F Joseph Turk, Springer Nature, Switzerland, 2019.

Lebsock, M.D and S. Cooper, 'Cloud Properties', in Encyclopedia of Remote Sensing, Ed. Eni Njoku, Springer, 2013

PRESENTATIONS

CONFERENCES (ORAL)

American Meteorological Society Annual meeting, Phoenix, AZ, January 2019

NASA Sounder Science Team Meeting, Greenbelt, MD, October 2018

American Meteorological Society Radiation Conference, Vancouver, CA, July 2018

CloudSat/CALIPSO Science Team Meeting, Boulder, CO, April 2018

AGU Fall Meeting, New Orleans, LA, December 2017

Cloud Feedback Model Intercomparison Project Meeting, Tokyo, Japan, September 2017

American Meteorological Society Annual meeting, Seattle, WA, January 2017

AGU Fall Meeting, San Francisco, CA, December 2016

CloudSat/CALIPSO Science Team Meeting, Newport News, VA, February 2016

American Meteorological Society Annual meeting, New Orleans, LA, January 2016

Cloud Feedback Model Intercomparison Project Meeting, Monterey, CA, June 2015
CloudSat/CALIPSO Science Team Meeting, Paris, France, August 2012
AGU Fall Meeting, San Francisco, CA, December 2011
AMSR-E Science Team Meeting, Asheville, NC, July 2011
CloudSat Science Team Meeting, Montreal, Canada, June 2011
A-Train symposium (Data Users Workshop), New Orleans, LA, October 2010
IEEE IGARRS, Honolulu, HI, July, 2010
AMS 13th Conference on Atmospheric Radiation, Portland, OR, June 2010
AMSR-E Science Team Meeting, Huntsville, AL, June 2010
AGU Fall Meeting, San Francisco, CA, December 2009
CERES Science Team Meeting, Fort Collins, CO, November 2009
AGU Fall Meeting, San Francisco, CA, December 2008
CloudSat Science Team Meeting, Seattle, WA, August 2008
12th International Symposium on Remote Sensing, Bruges, Belgium, September 2005

CONFERENCES (POSTER)

Cloud Feedback Model Intercomparison Project Meeting, Tokyo, Japan, September 2017
3rd International A-Train Symposium, Pasadena, CA, April, 2017
International Conference on Clouds and Precipitation, July, 2016
AGU Fall Meeting, San Francisco, CA, December 2015
Gordon radiation conference, Lewiston, ME, July, 2015
AGU Fall Meeting, San Francisco, CA, December 2014
CloudSat/CALIPSO Science Team Meeting, Alexandria, VA, November, 2014
AGU Fall Meeting, San Francisco, CA, December 2013
AGU Fall Meeting, San Francisco, CA, December 2012
Pan-GASS, Boulder, CO, September 2012
Chapman conference on remote sensing of the terrestrial water cycle, Kona, HI, February, 2012
Gordon radiation conference, Colby, ME, June, 2011
A-Train Symposium, New Orleans, Louisiana, October 2010

INVITED TALKS

NCAR – EOL Seminar, April, 2018
American geophysical Union, Fall Meeting, December 2017
International Space Studies Institute (ISSI), ‘Workshop on Shallow Clouds, circulation and climate sensitivity’, February 2016
ECMWF Workshop on Parameterization of clouds and precipitation across model resolutions, Reading, England, November, 7, 2012
NASA Goddard Space Flight Center, Greenbelt, MD, September 8, 2010
NASA Jet Propulsion Lab, Pasadena, CA, May 28, 2010

UNDERGRADUATE STUDENTS ADVISED

- Francisco Miranda – Fall 2013
- Mazyar Boustiani – Summer 2012

POSTDOCTORAL ADVISEES

- Rick Schulte – 2022 – present

- Kevin Smalley – 2020 – present
- Jussi Leinonen – 2014 – 2017
- Mark Smalley – 2016 – present
- Ethan Nelson – 2018 – 2019
- Richard Roy – 2017 – 2019

PROFESSIONAL ACTIVITIES

- Steering Committee: 3rd International A-Train Symposium, April 2017, Pasadena, CA.
- Scientific Committee: CALIPSO-CloudSat Ten Year Progress Assessment and Path Forward, Paris France, June 8-10, 2016, Paris France
- Session Convener: Process-Oriented Evaluation of Climate Model Physics Using Observations and High-Resolution Models, AGU Fall Meeting
- Contributing Author: Intergovernmental Panel on Climate Change, Fifth Assessment Report
- Instructor: JPL Climate Sciences summer school, 2012 - 2014
- Member: American Meteorological Society (2003 - Present)
- Member: American Geophysical Union (2011 - Present)
- CloudSat Algorithm Developer Working Group (2009 - Present)
- Instrument Scientist, Airborne Precipitation Radar, NASA ORACLES field Campaign, Sao Tome, (August 2017)
- Mission Scientist, NASA IPHEX field campaign, Asheville, NC (May 2014)
- Flight Scientist, NASA LPVEx field campaign, Turku, Finland (Fall 2010)
- Peer Reviewer
Journal of Advances in Modeling Earth Systems
Journal of Geophysical Research
Journal of Quantitative Spectroscopy and Radiative Transfer
Journal of Applied Meteorology and Climatology
Journal of Hydrometeorology
Journal of the Atmospheric Sciences
Atmospheric Measurement Techniques
Atmospheric Chemistry and Physics
Journal of Climate
Geophysical Model Development
Geophysical Research Letters
Nature
Remote Sensing of the Environment
Advances in Atmospheric Sciences
- Proposal Panel Reviewer
 NASA
 DOE
 NSF