

# CURRICULUM VITAE

## STEVEN D. MILLER

Cooperative Institute for Research in the Atmosphere  
Colorado State University  
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### EDUCATION

Ph.D., 2000  
Colorado State University  
Specialization: Atmospheric Science--Radiation Theory and Remote Sensing  
Thesis: A Multi-Sensor Approach to the Retrieval and Model Validation of Global Cloudiness

M.Sc., 1997  
Colorado State University  
Specialization: Atmospheric Science--Radiation Theory and Remote Sensing  
Thesis: Multiple Scattering Effects in the Lidar Pulse Stretching Problem

B.Sc., 1995  
University of California at San Diego  
Specialization: Electrical and Computer Engineering—Systems and Control Theory

### HONORS & AWARDS

2007 Len Curtis European Award; Council of The Remote Sensing and Photogrammetry Society, Sponsored by Taylor & Francis.

2007 NOAA-David Johnson Award

2006 Promotion to Civil Servant Level-NP04 (Senior Scientist), Naval Research Laboratory, Monterey, CA

2006 NASA Group Achievement Award for Tropical Cloud Systems and Processes intensive airborne science field campaign, *Naval Research Laboratory, Monterey, CA*

2005 Alan Berman Research Paper Publication Award

2003 NASA Group Achievement Award for MODIS Near Real-Time Processing Effort (NRTPE), *Naval Research Laboratory, Monterey, CA*

2002 Technology Transfer Award for transition of Satellite FOCUS page to FNMOC, *Naval Research Laboratory, Monterey, CA*

2002 Special Act Award for SeaWiFS processing development, *Naval Research Laboratory, Monterey, CA*

2002 Plaque from Aviation Week for providing cover image and material contributions to feature article,  
*Naval Research Laboratory, Monterey, CA*

2001 “On the Spot” Award for contributions to OCND product, *Naval Research Laboratory, Monterey, CA*

2000 Outstanding Graduate Research Assistant of the Year Award, *Colorado State University, Dept. of Engineering, Fort Collins, CO*

2000 Sigma-Xi Chapter of Colorado State University Award for Outstanding Science/Engineering Poster,  
*Colorado State University, Graduate Research and Creativity Symposium, Fort Collins, CO*

1999-2000 NASA Student Fellowship #NGT5-50007-0002, *Colorado State University, Fort Collins, CO*

1990 Class Valedictorian, *Stephen W. Kearny High School, San Diego, CA*

## **DISSERTATION**

Miller, S. D., 2000: A Multi-Sensor Approach to the Retrieval and Model Validation of Global Cloudiness.  
Atmospheric Science Blue Book #692, Colorado State University, Ft. Collins, CO 80523-1371.

## **THESIS**

Miller, S. D. and G. L. Stephens, 1997: Multiple Scattering Effects in the Lidar Pulse Stretching Problem.  
Atmospheric Science Blue Book #642, Colorado State University, Ft. Collins, CO 80523-1371.

## **PEER-REVIEWED PUBLICATIONS**

Turk, F. J., C. Mitrescu, S. D. Miller, R. Ferraro, and N. Wang, 2008: Analysis of Light Precipitation  
Retrievals from a Constellation of Spaceborne Microwave Sensors. In review.

Mitrescu, C., S. D. Miller, T. L'Ecuyer, J. Hawkins, J. Turk, and P. T. Partain, 2008: Near real-time  
applications of CloudSat data. *J. Appl. Meteor.*, In press.

Donovan, M., E. R. Williams, C. Kessinger, G. Blackburn, R. L. Bankert, and S. D. Miller, 2008: The  
identification and verification of hazardous convective cells over oceans using visible and infrared  
satellite observations, *Journal of Applied Meteorology and Climatology*, In press.

Zhang, J. Reid, S. D. Miller, and F. J. Turk, 2008: Strategy for studying nocturnal aerosol optical depth  
using artificial lights. *Int. J. Rem. Sens.*, In press.

Miller, S. D., A. P. Kuciauskas, M. Liu, Q. Ji, J. S. Reid, D. W. Breed, A. L. Walker, and A. A. Mandoos,  
2008: Haboob dust storms of the southern Arabian Peninsula, *J. Geophys. Res.*, **113**, D01202,  
doi:10.1029/2007JD008550.

- Lee, T. F., S. D. Miller, F. J. Turk, J. D. Hawkins, S. Wang, P. Dills, G. McWilliams, C. Hoffman, G. Mineart, Z. Jelaneck, 2006: NPOESS Online Satellite Training for Users. *Bull. Amer. Meteor. Soc.*, In Press.
- Liu, M., D. L. Westphal, A. L. Walker, T. R. Holt, K. A. Richardson, and S. D. Miller, 2006: Real-Time Dust Storm Forecasting during Operation Iraqi Freedom. *Wea. And Forecasting*, In press.
- Miller, S. D., S. H.D. Haddock, C. Elvidge, and T.F. Lee, 2006: 20,000 leagues over the seas: the first satellite observations of a bioluminescent milky sea, *Int. J. Rem. Sensing*, In press.
- Lee, T. F., S. D. Miller, C Schueler, and S. Miller, 2006: NASA/MODIS Previews NPOESS/VIIRS Capabilities, *Wea. and Forecasting*, In press.
- Miller, S. D., J. D. Hawkins, J. Kent, F. J. Turk, T. F. Lee, A. P. Kuciauskas, K. Richardson, R. Wade, and C. Hoffman, 2006: NexSat: Previewing NPOESS/VIIRS Imagery Capabilities, *Bull. Amer. Meteor. Soc.*, **87**(4), 433-446, doi:10.1175/BAMS-87-4-433.
- Miller, S. D., J. D. Hawkins, T. F. Lee, F. J. Turk, and K. Richardson, 2006: MODIS Views of Operation Iraqi Freedom in Collage, *Int. J. Rem. Sens.*, **27**(7), 1279-1284, doi:10.1080/01431160500383673.
- Miller, S. D., J. D. Hawkins, T. F. Lee, F. J. Turk, K. Richardson, A. P. Kuciauskas, J. Kent, R. Wade, C. E. Skupniewicz, J. Cornelius, J. O'Neal, P. Haggerty, K. Sprietzer, G. Legg, J. Henegar, and B. Seaton, 2006: MODIS Provides a Satellite Focus on Operation Iraqi Freedom, *Int. J. Rem. Sensing*, **27**(7), 1285-1296, doi:10.1080/01431160500383772
- Lee, T. F., S. D. Miller, F. J. Turk, C. Schueler, R. Julian, S. Deyo, P. Dills, and S. Wang, 2006: The NPOESS/VIIRS day/night visible sensor, *Bull. Amer. Meteor. Soc.*, **87**(2), 191-199, doi:10.1175/BAMS-87-2-191.
- Miller, S. D., S. H.D. Haddock, C. Elvidge, and T.F. Lee, 2005: Detection of a bioluminescent milky sea from space, *Proc. Nat. Acad. Sci.*, **102**(40), 14181-14184, doi:10.1073/pnas.0507253102.
- Mitrescu, C., J. M. Haynes, G. L. Stephens, S. D. Miller, G. M. Heymsfield, and M. J. McGill, 2005: Cirrus cloud optical, microphysical, and radiative properties observed during the CRYSTAL-FACE experiment: I. A lidar-radar retrieval system, *J. Geophys. Res.*, **110**, DO9208, doi:10.1029/2004JD2005605.
- Turk, F. J., and S. D. Miller, 2005: Towards improved characterization of remotely sensed precipitation regimes with MODIS/AMSR-E blended data techniques, *IEEE Trans. Geoscience Rem. Sens.*, **43**, 1059—1069.
- Miller, S. D., T. F. Lee, and R. Fennimore, July 2005: Satellite-based daytime imagery techniques for snow cover and cloud delineation, *J. Appl. Meteorol.*, **44**(7), 987—997.
- Miller, S. D., 2003: A consolidated technique for enhancing desert dust storms with MODIS, *Geophys. Res. Lett.*, **30**, 2071—2074.
- Stephens, G. L. *et al.*, 2002: The CloudSat mission and the A-Train: A new dimension of space-based observations of clouds and precipitation. *Bull. Amer. Meteor. Soc.*, **83**, No. 12, 1771—1790.

- Platt, C.M.R., S. A. Young, R. T. Austin, G. R. Patterson, D. L. Mitchell, and **S. D. Miller**, 2002: LIRAD observations of tropical cirrus clouds in MCTEX. Part I: Optical properties and detection of small particles in cold cirrus. *J. Atmos. Sci.*, **59**, 3145—3162.
- Austin, R. T., G. L. Stephens, **S. D. Miller**, S. M. Sekelsky, F. Li, and Q. Min, 2001: Retrieval of stratus cloud microphysical parameters using millimetric radar and visible optical depth in preparation for CloudSat: Part II: algorithm evaluation, Submitted to *J. Geophys Res.*
- Miller, S. D., 2001: Physical decoupling of the GOES daytime 3.9-um channel thermal emission and solar reflection components using total solar eclipse data. *Int. Journal of Remote Sensing*, **22**, No. 1 9-34.
- Miller, S. D., and G. L. Stephens, 2001: CloudSat instrument requirements as determined from ECMWF forecasts of global cloudiness. *J. Geophys. Res.*, **106**, D16, 17713-17733.
- Miller, S. D., and G. L. Stephens, 2001: GOES 10 cloud property retrievals in the context of vertically varying microphysics. *J. Geophys. Res.*, **106**, D16, 17981.
- Miller, S. D., G. L. Stephens, C. K. Drummond, A. K. Heidinger, and P. T. Partain, 2000: A multisensor diagnostic cloud property retrieval scheme. *J. Geophys. Res.*, **105**, No. D15, 19955-19971.
- Stephens, G. L., R. F. McCoy, R. McCoy, P. Gabriel, P. T. Partain, **S. D. Miller**, and S. Love, 2000: A multipurpose scanning spectral polarimeter (SSP): Instrument description and sample results. *J. Atmos. and Oceanic Tech*, **17**, 616-627.
- Stephens, G. L., R. G. Ellington, J. Vitko Jr., W. Bolton, T. Tooman, F. P. J. Valero, P. Minnis, P. Pilewskie, G. S. Phipps, S. Sekelsky, J. R. Carswell, **S. D. Miller**, A. Benedetti, R. B. McCoy, R. F. McCoy, Jr., A. Lederbuhr, R. Bambha, 2000: The Department of Energy's Atmospheric Radiation Measurement (ARM) Unmanned Aerospace Vehicle (UAV) Program. *B. Amer. Meteor. Soc.*, **81**, No. 12, 2915-2937
- Platt, C. M. R., D. M. Winker, M. A. Vaughan, and **S. D. Miller**, 1999: Backscatter-to-extinction ratios in the top layers of the tropical mesoscale convective systems and in isolated cirrus from LITE observations. *J. Appl. Meteor.*, **38**, No. 9, 1330-1345.
- Miller, S. D., G. L. Stephens, and A.C.M. Beljaars 1999: A validation survey of the ECMWF cloud prognostic scheme using LITE. *Geophys.Res. Lett.*, **26**, No. 10, 1417—1420.
- Miller, S. D. and G. L. Stephens, 1999: Multiple Scattering Effects in the Lidar Pulse Stretching Problem. *J. Geophys. Res.*, **104**, No. D18, 22205—22219.

## **BOOKS/CHAPTERS/NEWSLETTERS/OTHER**

- Fromm, M. and S. D. Miller, 2007: Pyrocumulonimbus and climate change. Integrated Land Ecosystem-Atmosphere Processes Study (iLEAPS) Newsletter, No. 4, 24-25, June 2007.
- Miller, S. D., 2003: Satellite Surveillance of Desert Dust Storms. *NRL Review*, 69-77.
- Miller, S. D., 2003: A "Satellite Focus" for the War on Terror. *NRL Review*, 103-105.

Nealson, K. H., and J. W. Hastings, 2006: Quorum sensing on a global scale: massive numbers of bioluminescent bacteria make Milky Seas. *Appl. Env. Microbiol.*, 72(4), 2295-2297, doi:10.1128/AEM.72.4.2295-2297.2006. (Supplied Cover Art)

## CONFERENCE PROCEEDINGS

Platt, C. M. R., S. D. Miller, and W. H. Hunt, 2006: Solar Radiance and Albedo of Clouds from Space Lidar, 23<sup>rd</sup> International Laser Radar Conference, Nara, Japan, July 24-28.

Miller, S. D., J. D. Hawkins, K. Richardson, T. F. Lee, and F. J. Turk, 2006: Enhanced Tropical Cyclone Monitoring with MODIS and OLS, *Amer. Meteor. Soc. 27<sup>th</sup> Conf. Hurr. Trop. Meteor.*, **15A.6**, Monterey, April 24-28.

Miller, S. D., F. J. Turk, T. F. Lee, J. D. Hawkins, C. S. Velden, C. C. Schmidt, E. M. Prins, and S. H. D. Haddock, 2006: The Origin of Sensors: Evolutionary Considerations for Next-Generation Environmental Satellite Systems, 14<sup>th</sup> Conf. Sat. Meteor. And Ocean., **10.1**, *Amer. Meteor. Soc.*, Atlanta, Feb 3-6.

Lee, T. F., S. D. Miller, J. D. Hawkins, F. J. Turk, P. Dills, and S. Wang, 2006: Tropical Cyclone Satellite Tutorial Online through the COMET Program, 27<sup>th</sup> Conf. Hurr. Trop. Meteor , **9A2**, Monterey, April 24-28.

Hawkins, J. D., T. F. Lee, F. J. Turk, K. L. Richardson, S. D. Miller, C. R. Sampson, J. E. Kent, and R. Wade, 2006: NRL Tropical Cyclone R&D Web Resource Augmentations, 14th Conf. Sat. Meteor. And Ocean., P3.20, *Amer. Meteor. Soc.*, Atlanta, Feb 3-6.

Mitrescu, C., S. D. Miller, and R. Wade, 2006: Cloud Optical and Microphysical Properties Derived from Satellite Data, 14th Conf. Sat. Meteor. And Ocean., P1.7, *Amer. Meteor. Soc.*, Atlanta, Feb 3-6.

Turk, F. J., T. F. Lee, S. D. Miller, R. Ferraro, and F. Weng, 2006: Precipitation Signatures in SSMIS Imagery, 14th Conf. Sat. Meteor. And Ocean., P6.20, *Amer. Meteor. Soc.*, Atlanta, Feb 3-6.

Fromm, M., R. Servranckx, S. D. Miller, F. J. Turk, and B. J. Stocks, 2006: Smoking Pyrocumulus: Observations from MODIS, MISR, AVHRR, DMSP, GOES, and TOMS, 14th Conf. Sat. Meteor. And Ocean., 7.5, *Amer. Meteor. Soc.*, Atlanta, Feb 3-6.

Miller, S. D., C. Mitrescu, T. S. L'Ecuyer, J. A. Kankiewicz, D. Reinke, and P. T. Partain, 2005: A Cross Section of DoD Plans for Exploitation of CloudSat. *Proc. BACIMO*, Monterey, CA, October 2005.

Miller, S. D., T. F. Lee, F. J. Turk, A. P. Kuciauskas, and J. D. Hawkins, Shedding New Light on Nocturnal Monitoring of the Environment with the VIIRS Day/Night Band, *Proc. of SPIE*, **5890**, San Diego, CA, July 31-Aug 4, 2005, 58900W.

Danly, B., S. D. Miller, W. Manheimer, A. W. Fliflet, G. Linde, M. Ngo, and W. J. Cheung, 2004: Opportunities for NRL WARLOC Radar Validation and Calibration of NASA Earth Observing Space Missions, 29th Int. Conf IR and MM Waves and 12th Conf. THz Electronics, Karlsruhe, Germany, 27 Sep – 1 Oct, 2p.

- Kuciauskas, A.P., S.D. Miller, T.F. Lee and J.D. Hawkins, 2004: A Preview of Forecaster Imaging Applications from NPOESS, Satellite Direct Readout Conference: A Decade in Transition, December, 2004, Miami, FL.
- Miller, S. D., J. D. Hawkins, T. F. Lee, K. Richardson, A. P. Kuciauskas, J. Kent, and R. Wade, 2005: Satellite Meteorology Applications with an Eye Toward NPOESS, CWB, Taiwan.
- Schueler, C.F., S.W. Miller, J.J. Puschell, T.F. Lee, S.D. Miller, J.D. Hawkins, F.J. Turk, and K. Richardson, 2005: NPOESS VIIRS: design, performance estimates and applications, TOVS Study conference, Beijing China (May 2005).
- Mitrescu, C., J. Haynes, and S. D. Miller, 2005: A Lidar-Radar Observing System for Monitoring the Optical and Microphysical Properties of Cirrus, AMS Annual Meeting, San Diego.
- Mitrescu, C., J. M. Haynes, G.L. Stephens, and S.D. Miller, 2004: Retrieving Cirrus Clouds Optical and Microphysical Properties using a Radar-Lidar Observing System, *CloudSat Meeting*, Laguna Beach, CA
- Lee T. F., J. D. Hawkins, S. D. Miller, C. F. Schueler, , F. J. Turk, and K. Richardson, 2004: NPOESS VIIRS: Dramatically Improved Operational Capability. *Proc. of SPIE*, Vol. 5658, Honolulu, HI, November, 2004, 1—10.
- Miller, S. D., J. D. Hawkins, F. J. Turk, T. F. Lee, K. Richardson, and A. Kuciauskas, 2004: The Mission Support Role Played by MODIS During Operation Iraqi Freedom, *Proc. of SPIE*, Vol. 5548-35, 253—262, Denver, CO, 4-6 August, 2004.
- Miller, S. D., J. D. Hawkins, F. Joseph Turk, T. F. Lee, and J. Kent, 2004: Demonstrating NPOESS/VIIRS Imaging Capabilities Over the Continental United States with MODIS, *Proc. of the 13<sup>th</sup> Conference on Satellite Meteorology and Oceanography*, P1.21, American Meteorological Society, Norfolk, VA, September 2004.
- Miller, S. D., J. D. Hawkins, F. J. Turk, T. F. Lee, K. Richardson, and A. Kuciauskas, 2004: Near Real-Time MODIS Applications Supporting Operation Iraqi Freedom, *Proc. of AIAA*, San Diego, CA, September 2004.
- Miller, S. D., J. D. Hawkins, F. J. Turk, T. F. Lee, K. Richardson, A. Kuciauskas, J. Kent and R. Wade, 2003: Satellite Focus: A Dynamic, Near Real-Time Satellite Resource for the DoD. *Proc. of BACIMO*, Monterey, CA, September, 2003.
- Miller, S. D., F. J. Turk, T. F. Lee, J. D. Hawkins, K. Richardson, J. Kent, and A. P. Kuciauskas 2003: DoD-Tailored Environmental Products from Near Real-Time Terra/Aqua MODIS in Support of Operation Iraqi Freedom, *Proc. of OCEANS*, 1593—1597, San Diego, CA, September, 2003.
- Miller, S. D., J. D. Hawkins, T. R. Lee, F. J. Turk, K. Richardson, and J. Kent, 2003: Satellite Focus: Linking the United States Navy to High-Resolution Satellite Technologies, *Proc. of IGARSS*, Toulouse, France.
- Liu, M., D. L. Westphal, A. L. Walker, K. Richardson, T. R. Holt, and S. D. Miller, 2003: Navy's COAMPS™ High-Resolution Modeling of Sandstorms for Southwest Asia in Spring 2003, *Proc. of BACIMO*, Monterey, CA
- Liu, M., D. L. Westphal, A. L. Walker, S. D. Miller, and T. Holt, 2003: Development of a

Predictive dust aerosol model in COAMPS™ and application to Operation Iraqi Freedom in Spring 2003. 7<sup>th</sup> Annual George Mason Univ. Transport and Dispersion Modeling Workshop, June 17-19, Fairfax, VA

- Miller, S. D., 2003: An Improved Land/Ocean Dust Enhancement Applicable to MODIS. *Proc. of the 12<sup>th</sup> Conference on Satellite Meteorology and Oceanography*, CD-ROM 3.2, American Meteorological Society, Long Beach, CA.
- Lee, T. F., and S. D. Miller, 2003: Improved Detection of Nocturnal Low Clouds by MODIS, *Proc. of the 12<sup>th</sup> Conference on Satellite Meteorology and Oceanography*, American Meteorological Society, Long Beach, CA.
- Miller, S. D., F. J. Turk, T. F. Lee, K. Richardson, and J. D. Hawkins, 2002: The Enhanced Role of the Polar Orbiter Constellation in Tropical System Monitoring in the Wake of a Geostationary Platform Failure. *Proc. of the 25<sup>th</sup> Conference on Hurricanes and Tropical Meteorology*, American Meteorological Society, San Diego, CA.
- Miller, S. D. and T. F. Lee, 2001: Desert Dust Storms as Detected by MeteoSat and SeaWiFS Multispectral Imagery. *Proc. of the 11<sup>th</sup> Conference on Satellite Meteorology and Oceanography*, 43—46, Poster 1.11, American Meteorological Society, Madison, WI.
- Miller, S. D., 2001: Physical Decoupling of the GOES 3.9- $\mu$ m Thermal Emission and Solar Reflection Components Using Total Solar Eclipse Data. *Proc. of the 11<sup>th</sup> Conference on Satellite Meteorology and Oceanography*, 446—449, Poster 4.5, American Meteorological Society, Madison, WI.
- Miller, S. D., 2001: An ARM-Enhanced Analysis of GOES-10 Cloud Optical Property Retrievals, *Proc. of the 11<sup>th</sup> Atmospheric Radiation Measurement (ARM) Program Science Team Meeting*, Atlanta, GA.
- Austin, R. R., Davis, J. M., Stephens, G. L., and Miller, S. D., 2001: Retrieval of Microphysical and Radiative Parameters of Stratus Clouds In ARESE II. *Proc. of the 11<sup>th</sup> Atmospheric Radiation Measurement (ARM) Program Science Team Meeting*, Atlanta, GA.
- Miller, S. D., 2000: Physical Decoupling of the GOES 3.9- $\mu$ m Thermal Emission and Solar Reflection Components Using Total Solar Eclipse Data. *CSU Graduate Research Symposium*, Colorado State University, Ft. Collins, CO 80523-1371.
- Miller, S. D., and G. L. Stephens, 1999: Caveats to wide field-of-view lidar signal ranging in clouds. *Proc. of the 10<sup>th</sup> International Workshop on Multiple Scattering Lidar (MUSCLE)*, Florence, Italy, 19-22 April, 1999, 185-196.
- Miller, S. D., P. T. Partain, G. L. Stephens, and A. C. M. Beljaars, 1999: Analysis of ECMWF prognostic cloud forecasts using ARESE 10/30/95 data. *Proc. of the 9<sup>th</sup> Atmospheric Radiation Measurement (ARM) Program Science Team Meeting*, San Antonio, TX.
- Partain, P. T., S. D. Miller, G. L. Stephens, R. F. McCoy, and R. McCoy, 1999: SSP cloud retrieval based shortwave flux simulations during ARESE and SUCCESS. *Proc. of the 9<sup>th</sup> Atmospheric Radiation Measurement (ARM) Program Science Team Meeting*, San Antonio, TX.
- Partain, P. T., S. D. Miller, G. L. Stephens, R. F. McCoy, and R. McCoy, 1998: Testing radiation models using spectral fluxes and radiances measured from aircraft and the surface. *Proc. of the 8<sup>th</sup> Atmospheric Radiation Measurement (ARM) Program Science Team Meeting*, Tucson, AZ, 22-26 March, 1998.

## **TECHNICAL REPORTS**

- Miller, S. D., 2002: SeaWiFS True Color, Vegetation, and Dust Enhancement Processing at NRL Monterey, NRL Report NRL/FR/7540—02-2, 22 pp.
- Miller, S. D., 2000: Update on NRL-MRY OCND Cloud Top Mapping Efforts: NRL Technical Report.
- Stephens, G. L, and S. D. Miller, 1998: Assessing the impact of remote sensing data on the cloudiness predictions in short-term forecasts: Technical Report, Colorado State University.
- Stephens, G. L, and S. D. Miller, 1999: Assessing the impact of remote sensing data on the cloudiness predictions in short-term forecasts: Technical Report, Colorado State University.

## **POSTERS/TALKS**

- Hawkins, J., S. Miller, F.J. Turk, T. Lee, K. Richardson, A. Kuciauskas, C. Mitrescu, R. Bankert, M. Hadjimichael, G. Poe, J. Kent, R. Wade, 2007: NRL Satellite Remote Sensing Data and Applications. Joint 2007 EUMETSAT Meteorological Satellite Conference and the 15th American Meteorological Society (AMS) Satellite Meteorology and Oceanography Conference, Amsterdam, September.
- Mitrescu, C., S. Miller, J. Hawkins, T. L'Ecuyer, J. Turk, and P. Partain, 2007, Near real-time CloudSat processing at the Naval Research Laboratory, Joint 2007 EUMETSAT Meteorological Satellite Conference and the 15th American Meteorological Society (AMS) Satellite Meteorology and Oceanography Conference, Amsterdam, September.
- Lee, Thomas. F., S.D. Miller, F. Joseph Turk, Jeffrey D. Hawkins, Cristian Mitrescu, 2007: Improving the Usability of Nighttime Sensors from Low Light Imagery. Joint 2007 Eumetsat Meteorological Satellite Conference and the 15th American Meteorological Society (AMS) Satellite Meteorology and Oceanography Conference, Amsterdam, October.
- Mitrescu, C., T. L'Ecuyer, S. D. Miller and J. Haynes, 2007: The CloudSat Precipitation Profiling Algorithm, Oral Presentation, CloudSat Sci. Team Meeting, June, San Francisco, CA.
- Mitrescu, C., S. D. Miller, J. Hawkins, T. L'Ecuyer, J. Turk, and P. Partain, 2007: Near Real-Time CloudSat Processing at the Naval Research Laboratory, Joint 2007 EUMETSAT Meteor. Sat. Conf. and 15th AMS Sat. Meteor. & Ocean., Amsterdam, Netherlands, Sept. 2007
- Mitrescu, C., S. D. Miller, T. L'Ecuyer, and J. Turk, 2007: Light Rain Retrievals Using CloudSat 94-GHz Radar Data - Preliminary Results, AMS Meeting, San Antonio, TX, JP2.6
- Miller, S.D., C. Mitrescu, J. Turk, T. L'Ecuyer, and J. Haynes, 2006: Early Results from the CloudSat Light Rain Precipitation Dataset, AGU Meeting, San Francisco, CA
- Mitrescu, C., S. D. Miller, J. Turk, J. Hawkins, T. Lee, K. Richardson, 2006: Near Real-Time CloudSat Processing at NRL Monterey, CloudSat Science Team Meeting, Kona, HI

Mitrescu, C., S. D. Miller, T. L'Ecuyer, and J. Turk, 2006: Rainrates retrievals using CloudSat at NRL Monterey, CloudSat Science Team Meeting, Kona, HI

Mitrescu, C., J. Turk, S. D. Miller, and J. Teixeira, 2006: Satellite Estimated Cloud Properties along the GPCI Cross-Section (including first looks from CloudSat), GCSS-GPCI workshop, 2006 - NASA GISS, New York, N.Y.

L'Ecuyer, T. S., S. D. Miller, C. Mitrescu, J. M. Haynes, C. Kummerow, and F. J. Turk, 2006: A First Look at the Beta Version of CloudSat's Light Precipitation Dataset, Australia

Mitrescu, C., J. Turk, S. Miller, J. Teixeira, 2006: Satellite estimated cloud properties along the GPCI cross section including first looks from CloudSat. GCSS-GPCI Workshop, NASA Goddard Institute of Space Studies, 18-21 September, New York.

Miller, S. D., J. D. Hawkins, F. J. Turk, T. F. Lee, K. Richardson, A. P. Kuciauskas, J. F. Kent, R. H. Wade, 2006: Responding to Global Environmental Crises with NRL Satellite-derived Value Added Products. 2006 AF Weather Technology Transition (T2) Summit, Omaha, NB, 6 - 7 Sep 2006.

Walker, A.L., M. Liu, D.L. Westphal, S.D. Miller, and K.A. Richardson: Comparison of the Naval Research Laboratory's High Resolution Dust Source Database with the United States Geological Survey Land Use Characteristic Dataset for the October 9-11, 2001 Afghanistan Dust Storm. BACIMO conference, Monterey, CA, October 2005.

Walker, A.L., S.D. Miller, K.A. Richardson, D.L. Westphal, and M. Liu: The Naval Research Laboratory's High-Resolution (27km) Dust Source Database for Southwest Asia. AGU Fall Meeting, San Francisco, CA, December 2005.

Walker, A.L., S.D. Miller, K.A. Richardson, D.L. Westphal, and M. Liu: Satellite Enhanced Dust Source Detection in Afghanistan and Pakistan (2001-2006). Sixth International Conference on Aeolian Research, Guelph, Ontario, Canada, July 2006. (Oral)

Walker, A.L., S.D. Miller, and K.A. Richardson: Dust Outbreaks Across the Southwestern United States and Northern Mexico: Winter and Spring 2005-2006. Sixth International Conference on Aeolian Research, Guelph, Ontario, Canada, July 2006.

September 2006: 16<sup>th</sup> SeaSpace Conf "Evolution of Sensors"

March 2006: FNMOC Training on Satellite Focus

March 2006: NRL Seminar "Evolution of Sensors"

Feb 2006: Keynote speaker at AMS Conference in Atlanta, GA

2005: Poster at CIMSS 25<sup>th</sup> Anniversary

Miller, S. D., 2003: An Overview of CloudSat: System, Science and DoD Relevance, Naval Postgraduate School, Monterey, CA, Oral

Miller, S. D., 2003: Ongoing Activities and Ca/Val Opportunities at NRL, CloudSat Science Team Meeting, Boulder, CO, Oral

Hawkins, J. D., Miller, S. D., et al., MODIS MAXI Review, Washington D.C., Oral

Miller, S. D., 2003: FNMOCC SeaWiFS/MODIS Dust Training, Monterey, CA, Oral

Miller, S. D., 2003: FNMOCC Southwest Asia Conference: Satellite Focus, Monterey, CA, Oral

Miller, S. D., 2003: AMS, Long Beach, CA, MODIS Dust Enhancement Oral + 2 Posters

Miller, S. D., 2002: AGU, Satellite Dust Detection Techniques, San Francisco, Poster

Miller, S. D., 2002: Update on CloudSat-Relevant Activities at NRL, Oral

Miller, S. D., 2002: TeraScan Users Conference, TeraScan-Based MODIS Development, San Diego, Oral

Miller, S. D., 2002: NMSUG, A New Focus for NRL Monterey Satellite Processing, San Diego, Oral

Miller, S. D., 2002: AMS Scholars, Navy Satellite Remote Sensing in the War on Terror, NRL-DC, Oral

Miller, S. D., 2002: Validation of Boundary Layer Clouds from Satellite Remote Sensing, Workshop on Parameterization of the Cloudy Boundary Layer, Monterey, Oral

Miller, S. D., 2001: NMSUG, Multi-Sensor Applications, San Diego, Oral

Miller, S. D., 2001: Physical Decoupling of Near-Infrared (3.9  $\mu\text{m}$ ) Solar and Thermal Radiation Components Through Satellite Observations of Total Solar Eclipses. 11<sup>th</sup> Conf. Satellite Meteor. Ocean., 15-18 October 2001, Madison, Wisconsin (Poster display).

Miller, S. D., and T. F. Lee, 2001: Desert Dust Storms as Detected by Meteosat and SeaWiFS Multispectral Imagery. 11<sup>th</sup> Conf. Satellite Meteor. & Ocean., 15-18 October 2001, Madison, Wisconsin (Poster display).

Miller, S. D., Recent Satellite Processing Developments at NRL Monterey, December 5 2001, NRL Spectral Remote Sensing Conference, Stennis Space Center, MS, (Overhead presentation)

Miller, S. D., Key Parameters of Clouds and Precipitation from Next-Generation Weather Satellites, Nov. 2001, 6.2 New Start presentation before the NRL RAC, NRL-DC.

Miller, S. D., and J. M. Davis, 2001: Radiative Properties of the CLEX 7, March 10 Mid-Level Cloud Case, *BACIMO*, Fort Collins, CO. (Poster display)

Miller, S. D., 2001: OCND and SeaWiFS progress at NRL Monterey, NMSUG meeting, San Diego, CA, (Overhead presentation)

Miller, S. D., 2001: NRL Monterey Open House OCND processing. (Poster)

Miller, S. D., 2001: NRL Monterey Open House SeaWiFS processing. (Poster)

Miller, S. D., 2001: An ARM-Enhanced Analysis of GOES-10 Cloud Optical Property Retrievals, *Proc. of the 11<sup>th</sup> Atmospheric Radiation Measurement (ARM) Program Science Team Meeting*, Atlanta, GA. (Poster)

Austin, R. R., Davis, J. M., Stephens, G. L., and Miller, S. D., 2001: Retrieval of Microphysical and Radiative Parameters of Stratus Clouds In ARESE II. *Proc. of the 11<sup>th</sup> Atmospheric Radiation Measurement (ARM) Program Science Team Meeting*, Atlanta, GA. (Poster)

Miller, S. D., 2001: Potential Applications of CloudSat Science in the NRL Marine Meteorology Division, *2001 CloudSat Science Team Meeting*, Ottawa, CAN (Oral).

Austin, R. T., G. L. Stephens, R. F. McCoy, Jr., R. B. McCoy, S. D. Miller, and S. M. Sekelsky, 2000: Stratus sensing in the CloudSat Antecedent Validation Experiment (CAVEX99), *2000 ARM Science Team Meeting*, San Antonio, TX (Poster).

Miller, S. D., 2000: Physical Decoupling of the GOES 3.9- $\mu\text{m}$  Thermal Emission and Solar Reflection Components Using Total Solar Eclipse Data. *CSU Graduate Research Symposium*, Colorado State University, Ft. Collins, CO 80523-1371 (Poster).

Miller, S. D., 2000: A multi-sensor approach to the retrieval and model validation of global cloudiness. (Lecture series: presented at Scripps Institute of Oceanography, NOAA/ETL, California Institute of Technology, NASA Jet Propulsion Laboratory, Naval Research Laboratory, NOAA/NESDIS ORA).

Miller, S. D., 1998: Multiple scattering effects in the lidar pulse stretching problem. LITE Data Workshop, 6-7 January 1999. (Oral).

Miller, S. D., P. T. Partain, G. L. Stephens, and A. C. M. Beljaars, 1999: Analysis of ECMWF prognostic cloud forecasts using ARESE 10/30/95 data., 9<sup>th</sup> ARM Science Team Meeting, San Antonio, TX (Poster).

Miller, S. D., 1999: The role of ARM in CloudSat algorithm development. First CloudSat Science Team Meeting, 16-19 August, 1999. (Oral).

Partain, P. T., S. D. Miller, G. L. Stephens, R. F. McCoy, and R. McCoy, 1999: SSP cloud retrieval based shortwave flux simulations during ARESE and SUCCESS. Ninth ARM Science Team Meeting, San Antonio, TX (Poster).

Partain, P. T., S. D. Miller, G. L. Stephens, R. F. McCoy, and R. McCoy, 1998: Testing radiation models using spectral fluxes and radiances measured from aircraft. 8<sup>th</sup> ARM Science Team Meeting, Tucson, AZ (Poster).

## **COMMITTEES AND STEERING GROUPS**

2000-Current: Member, CloudSat Applications Advisory Group

2002-Current: Member, VIIRS Operational Algorithm Team (VOAT)

## **TRANSITIONS**

2003: MODIS 250m True Color, and Land/Ocean Dust processing to NEMOC, NCMOC

2002: SeaWiFS True Color, Vegetation, Dust processing to NEMOC, NCMOC

2002: Satellite Focus Page Software to FNMOC

## **INVENTIONS/PATENTS**

Miller, S. D.: "Significant Dust Enhancement Over Land and Ocean," NRL Provisional Patent Awarded, February 2003.

Miller, S. D.: "Method and Apparatus for Three-Dimensional Blending"

## **RESEARCH ACTIVITIES**

Miller, S. D. (PI), and the Satellite Meteorological Applications Section of NRL (Code 7541), 2004-2007: Satellite Focus in the NPOESS Era, NPOESS-IPO Unsolicited.

Miller, S. D. (PI), and the Satellite Meteorological Applications Section of NRL (Code 7541), 2002-2006: Key Parameters of Clouds and Precipitation from Next-Generation Weather Satellites. Office of Naval Research (NRL 6.2 Base).

Stephens, G. L., and S. D. Miller, 1999: Toward the assimilation of satellite cloud and radiation observations in GCMs. NRA-99-OES-04.

Platt, C. M. R., M. A. Vaughan, and S. D. Miller (Co-PI), 1999: Retrieval of properties of high clouds from LITE data. NASA Unsolicited.

Stephens, G. L., and S. D. Miller (Co-PI), 1998: Study Assessing the impact of remote sensing data on the cloudiness predictions in short-term forecasts, NASA.

## **PROFESSIONAL SOCIETIES (Past and Current)**

AMS

AGU

IEEE (Student Chapter)

American Institute of Aeronautics and Astronautics