

Derrick J. Lampkin, Ph.D.
Assistant Professor

Department of Atmospheric and Oceanic Sciences
Department of Geology (adjunct)

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Current Appointments

Starting May 2020 Senior Research Program Scientist, NASA Headquarters/Booz-Allen-Hamilton

2013-Present Assistant Professor, Department of Atmospheric and Oceanic Science, Adjunct, Department of Geology

Previous Employment

2012-2013 Research Faculty, University of Colorado, Boulder, Institute of Arctic and Alpine research (INSTAAR)

*2005-2012 Assistant Professor of Geography, Pennsylvania State University
Department of Geoscience, Pennsylvania State University*

*2003-2005 NASA Earth System Science Graduate Fellow, University of Arizona,
Dept. of Geography*

*2003-2004 Research Assistant, Terrestrial Biophysics Remote Sensing
Laboratory (TBRS)-Soil, Water, and Environmental Sciences,
University of Arizona*

*2000-2003 Senior Research Scientist, NASA Southwest Regional Applications
Center (RESAC) / Sustainability of semi-Arid Hydrology and Riparian
Areas (SAHRA), Hydrology and Water Resources Department,
University of Arizona*

*1998-2000 Research Assistant, Byrd Polar Research Center, Polar Remote
Sensing Laboratory, Ohio State University*

*1993 (Oct-Dec) Research Field Assistant, Expedition to West Antarctica, Byrd Polar
Research Center, Ice Dynamics Laboratory, Ohio State University*

1991-1995 *Research Assistant, Polar Remote Sensing Laboratory, Ohio State University*
1992 (June-August) *Research Intern, Smithsonian, Center for Earth and Planetary Studies, Air and Space Museum*

Educational Background

<i>Ohio State University</i>	<i>Geological Sciences</i>	<i>B.S., 1995</i>
<i>Ohio State University</i>	<i>Geography</i>	<i>M.A., 2000</i>
<i>University of Arizona</i>	<i>Geography</i>	<i>Ph.D., 2005</i>

Articles in Refereed Journals

Lampkin, D.L., L. S. Koenig, #C.A. Joseph, and J. E. Box (2019), Investigating controls on the formation and distribution of wintertime storage of water in supraglacial lakes. *Frontiers in Science*, (in revision).

Cavanagh, J. P., **D. J. Lampkin**, R. Walker, G. Flowers, and B. Parizek (2019), Viscoelastic response of Jakobshavn Isbrae to hydrologic shear margin weakening. *Journal of Geophysical Research-Earth Surface*, (under review).

Lampkin, D.L., B. Parizek, E. Larour, H. Seroussi, #C.A. Joseph, and J. P. Cavanagh (2018), Towards improved understanding of changes in Greenland outlet glacier shear margin dynamics in a warming climate. *Front. Earth Sci.* 6:156. doi: 10.3389/feart.2018.00156.

Cavanagh, J. P., **D. J. Lampkin**, and T. Moon (2017). Seasonal variability in regional ice flow due to meltwater injection into the shear margins of Jakobshavn Isbræ. *J. Geophys. Res.: Earth Surface*, 122, 2488–2505. doi.org/10.1002/2016JF004187

Joseph, C.A., and **D. Lampkin** (2017). Spatial and temporal variability of water-filled crevasse hydrologic states along the shear margins of Jakobshavn Isbrae, Greenland, *The Cryosphere Discuss.*, pp. 1-21, doi:10.5194/tc-2017-86.

Koenig, L., C. Hulbe, R. Bell, and **D. Lampkin** (2016), Gender diversity in cryosphere science and awards, *Eos*, 97, doi:10.1029/2016EO049577.

Langford, Z.L., Gooseff, M.N., and **D. Lampkin** (2015), Spatiotemporal dynamics of wetted soils across a polar desert landscape, *Antarctic Science*, 27(2), 197-209, doi:10.1017/S0954102014000601.

Koenig, L. S., **Lampkin, D. J.**, #Montgomery, L. N., Hamilton, S. L., Turrin, J. B., #Joseph, C. A., Moutsafa, S. E., Panzer, B., Casey, K. A., Paden, J. D., Leuschen, C., and Gogineni, P. (2015), Wintertime storage of water in buried supraglacial lakes across the Greenland Ice Sheet, *The Cryosphere*, 9, 1333-1342, doi:10.5194/tc-9-1333-2015.

Lampkin, D.J., #N. Amador, B.R. Parizek, K. Farness, and K. Jezek (2013), Drainage from water-filled crevasse along the margins of Jakobshavn Isbræ: a potential catalyst for catchment expansion, *J. Geophys. Res.*, 118,19,doi:10.1002/jgrf.20039.

Lampkin, D.J., and #J. VanderBerg (2013), Supraglacial melt channel networks in the Jakobshavn Isbræ region during the 2007 melt season, *Hydrol. Process.*, 1099-1085. doi: 10.1002/hyp.10085.

Lampkin, D. J. and #U. Wade (2013), Evaluation of a novel inversion model for surface melt magnitude over the Greenland Ice Sheet during the 2002 ablation season. *International Journal of Remote Sensing* 34(19): 6931-6946. doi: 10.1080/01431161.2013.810351.

Eveland, J., M. N. Gooseff, **D. J. Lampkin**, J.E. Barrett, and C. Takacs-Vesbach (2013), Spatial and temporal patterns of snow accumulation and ablation across the McMurdo Dry Valleys, Antarctica. *Hydrol. Process.*, doi:10.1002/hyp.9407.

Lampkin, D.J. (2011), Supraglacial lake spatial structure in western Greenland during the 2007 ablation season, *J. Geophys. Res.*, doi:10.1029/2010JF001725.

Lampkin, D.J. and J. #VanderBerg (2011), A preliminary investigation of the influence of basal and surface topography on supraglacial lake distribution near Jakobshavn Isbrae, Western Greenland. *Hydrol. Process.*, doi: 10.1002/hyp.8170.

Lampkin, D.J. (2010), Resolving Barometric Pressure Waves in Seasonal Snowpacks with a Prototype-Embedded Wireless Sensor Network. *Hydrol. Process.*, DOI: 10.1002/hyp.7540, Vol. 24, No. 14, pp. 2014-2021.

Lampkin, D.J. and #C. Karmosky (2009), Surface Melt Magnitude Retrieval over Ross Ice Shelf, Antarctica Using Coupled MODIS Optical and Thermal Satellite Measurements. *The Cryosphere Discuss.*, Vol. 3, pp. 1069-1107.

Lampkin, D.J. and #R. Peng (2008), Empirical Retrieval of Surface Melt Magnitude from Coupled MODIS Optical and Thermal Measurements Over the Greenland Ice Sheet during the 2001 Ablation Season. *Sensors*, Vol. 8, pp. 4915-4947; doi: 10.3390/s8084915.

Bales, R.C., K.A. Dressler, B. Imam, S. R. Fassnacht, and **D.J. Lampkin** (2008), Fractional Snow Cover in the Colorado and Rio Grande Basins, 1995-2002. *Water Resour. Res.*, Vol. 44, pp. 1425-1435, doi:10.1029/2006WR005377.

Franklin, K.A., K. Lyons, P.L. Nagler, **D. Lampkin**, E. P. Glenn, F. Molina-Freaner, T. Markow, and A.R. Huete (2006), Buffelgrass (*Pennisetum ciliare*) land conversion and productivity in the plains of Sonora, Mexico. *Bol. Cons.*, 127, pp. 62-71. doi:10.1016/j.biocon.2005.07.018.

Nagler, P.L., J. Cleverly, E. Glenn, **D.J. Lampkin**, A. Huete, and Z. Wan (2005), Predicting Riparian Evapotranspiration from MODIS Vegetation Indices and Meteorological Data. *Remote Sens. of Environ.*, Vol. 19, pp. 17-30. doi:10.1016/j.rse.2004.08.009

Lampkin, D.J. and S. Yool (2004), Monitoring Mountain Snow Pack Evolution Using Near Surface Optical and Thermal Properties. *Hydrol. Process.*, Vol. 18, pp. 3527-3542. doi:/10.1002/hyp.5797

Lampkin, D.J. and S. Yool (2004), Numerical Simulations of MODIS Sensitivity Potential for Assessing Near Surface Mountain Snow Melt. *Geocarto International*, Vol. 19, No. 2, pp. 13-24. doi:10.3390/s8084915

Lampkin, D.J. (2003), An Experimental Optical Instrument for the Determination of Snow Accumulation in Alpine Environments. *International Journal of Fieldwork Studies*, Vol. 1, No. 1, pp. 1-11.

Published Conference Proceedings

Fassnacht, S.R., K.A. Dressler, D.J. Lampkin, S.R. Helfrich, R.C. Bales, and B. Imam, 2001. Comparing AVHRR and hydrologically modelled discontinuous alpine snow-covered area estimates. *Proceedings of the IGARSS (International Geoscience and Remote Sensing Symposium) 2001*, (Sydney, July 2001), 3 pages.

Fassnacht, S.R., S.R. Helfrich, D.J. Lampkin, K.A. Dressler, R.C. Bales, E.B. Halper, D. Reigle, and B. Imam, 2001. Snowpack modelling of the Salt Basin with water management implications. *Proceedings of the 69th Annual Western Snow Conference*, (Sun Valley ID, 2001), 65-76.

Conferences, Workshops, and Talks

Keynotes

Geological Society of Washington, Cosmos Club, May, 2017

Woods Hole Oceanographic Research Center, Falmouth, Massachusetts, February 2008

IEEE-GRSS Distinguished Lecture, Elizabeth City State University, November. 2007

§These papers are not listed in the Web of Science, but have DOI numbers and reprints are available upon request.

Penn State University, Minority Faculty Reception, Invited Speaker, Fall 2010

Florida Agricultural and Mechanical University (FAMU), Environmental Sciences Institute, Keynote Speaker for Annual Environmental Research, Education and Career Forum, March 30, 2009, Tallahassee, Florida.

Invited Talks

School of Earth and Atmospheric Sciences, Georgia Institute of Technology, January, 23, 2020.

American Geophysical Union, Cryospheric Sciences Section (invited panelist), The Next 100 Years of Cryosphere (C44A-05), December 12, 2019.

Department of Atmospheric, Oceanic, and Earth Sciences, George Mason University, December 4, 2019

Department of Physics, University of Maryland/Baltimore County, September 12, 2018

University of Cambridge, British Antarctic Survey, November 7, 2017

Columbia University, Lamont-Doherty Earth Observatory, May 3-4, 2016

NASA, Program for Regional Climate Assessment (PARCA) Greenland Surface Mass Balance, January 27-29, 2015.

Department of Earth and Planetary Sciences, John's Hopkins University, October 1, 2015

Center for Earth and Planetary Sciences, Smithsonian, April 17, 2014

Department of Geology Colloquium, University of Maryland, September 2014

Penn State University, College of Earth and Mineral Sciences, Invited Speaker, Earth System Science Center (ESSC), Climate Dynamics Brown Bag, fall 2010

Penn State University, College of Earth and Mineral Sciences, Geography Department Colloquium. Fall 2009.

Society for the Advancement of Chicanos and Native Americans in Science (SACNAS), Invited Speaker, Annual Meeting, October, 2008, Salt Lake City, Utah.

Penn State University, College of Earth and Mineral Sciences, Invited Course Lecture (EM SC 470W, CAUSE Course –Iceland), Spring 2008.

Penn State University, College of Engineering, Invited Course Lecture (Civil ENG 597E, Water Resources Research), Fall 2007.

Refereed Presentations

2019 ^*Lampkin, D.J., J. P. Cavanagh, J.P. C. Joseph, B.R. Parizek, T.A. Moon, E.Y. Larour, H. L. Seroussi, G.E. Flowers, A. Banwell, and K.C. Jezek, “Impact of a warming climate on shear margins of Greenland’s marine-terminating outlet glaciers: summary of recent work” NASA Program for Arctic Regional Climate Assessment (PARCA), NASA Goddard Space Flight Center, January 2019.

2018 ^*Lampkin, D.J., J. P. Cavanagh, J.P. C. Joseph, B.R. Parizek, T.A. Moon, R. Walker, E.Y. Larour, H. L. Seroussi, G.E. Flowers, A. Banwell, and K.C. Jezek “Shearing in a warmer climate: insights from observations and modeling.” American Geophysical Union, Washington, D.C., December 10-14.

2018 #* Cavanagh, J.P, L.C. Andrews, D.J. Lampkin, H. J. Zwally, “20-year evolution of high elevation ice sheet runoff-motion relationship in the Pakitsoq region of western Greenland.” American Geophysical Union, Washington, D.C., December 10-14.

2016 Cavanagh, J.P., D.J. Lampkin, T. A. Moon, M. Fahnestock, “Diagnosing seasonal variability in Jakobshavn Isbræ marginal ice velocity due to melt water induced shear weakening.” NASA Program for Arctic Regional Climate Assessment (PARCA), NASA Goddard Space Flight Center, January 2016.

2010 ^*Lampkin, D.J. and J. Vanderberg. “Estimation of Regional Surface Melt Volume Drainage due to Surface Flow through Supra-glacial Streams in the Jakobshavn Drainage Basin, Western Greenland.” International Glaciological Society, Byrd Polar Research Center, The Ohio State University, August 16-20.

2010 ^* Lampkin, D.J., N. Amador, B. Parizek, K. Farness, and K. Jezek. “Fuel Injected Ice Stream: Investigating Melt Water Injection along Jakobshavn Ice Stream Margins.” Midwest Glaciology Meeting, Woods Hole Oceanographic Institute, April 15.

2008 ^*Lampkin, D.J. “Towards a Robotic Network for Improved Climate Monitoring on Ice Sheets: Advancements in a Prototype System.” American Geophysical Union, San Francisco, California, December 15-19.

2008 ^*Lampkin, D.J. “Spatio-Temporal Variability of Surface Melt Intensity Over the Greenland Ice Sheet from 2000-2005 Using Coupled MODIS Optical and Thermal Measurements.” American Geophysical Union, San Francisco, California, December 15-19.

2008 ^*Lampkin, D.J. “No More Snow Pits? Potential to Retrieve Bulk Snowpack Structure from Transient Barometric Pressure Waves Measured from a Prototype Embedded Wireless Sensor Network.” American Geophysical Union, General Assembly, San Francisco, California, December 10-14.

2008 ^*Lampkin, D.J. “Improved Assessment of Ice Sheet Surface Dynamics through Application of Novel Satellite-Based Surface Melt Intensity Retrieval and Autonomous Rover Networks.” 35th Annual Society for Advancement of Chicano and Native Americans in Science (SACNAS), Salt Lake City, Utah, October 9-12.

2008 Lampkin, D.J. “Assessment of Surface Melt Intensity Using Coupled MODIS Optical and Thermal Measurements over the Greenland Ice Sheet.” 65th Annual Eastern Snow Conference, Fairlee (Lake Morey), Vermont, May 28-30.

2008 *Lampkin, D.J. A. Howard, and M. Engerstedt. “Mobile Rivers for Improved Ice Sheet Climate Monitoring.” 65th Annual Eastern Snow Conference, Fairlee (Lake Morey), Vermont, May 28-30.

2008 ^*Lampkin, D.J. “Potential to Retrieve Snow Pack Structure from Transient Barometric Waves Using an Embedded Wireless Sensor Network.” 65th Annual Eastern Snow Conference, Fairlee (Lake Morey), Vermont, May 28-30.

2008 ^*Lampkin, D.J. and S. Yool, (2003). “Evaluation of MODIS Visible and Near-Infrared Bands for Monitoring the Onset of Near Surface Alpine Snow Melt: Implications for Regional Water Resources and Climate Variability.” Oral Presentation at the American Association of Geographers, New Orleans, Louisiana, March 5-8. RSSG Student Paper Competition (Honorable Mention).

2008 ^*Lampkin, D.J. “From Binary to Magnitude: Estimation of Surface Melt Intensity over the Greenland Ice Sheet: Empirical Inversion Using Satellite Derived Optical/Thermal Measurements and Numerical Snowmelt Model.” Midwest Glaciological Meeting, Burlington, Vermont, March 18-20.

2007 ^*Lampkin, D.J. and Steffen, K. “Estimation of Surface Melt Intensity Using MODIS Optical and Thermal Measurements over Western Greenland.” European Geophysical Union (EGU) General Assembly, Vienna, Austria, April 15-20.

2006 ^*Lampkin, D.J. and A. Carleton. “Potential for Sea Ice Modulation of Antarctic Coastal Heat Flux: Implications for Ice Shelf Stability.” European Geophysical Union (EGU) General Assembly, Vienna, Austria, April 15-20.

2006 ^*Lampkin, D.J. “Potential for Monitoring Mountain Snow Melt Dynamics Using Optical Satellites.” American Geophysical Union, Western Pacific Geophysics Conference, Beijing, China, July 24-27.

- 2002 Lampkin, D.J. “Sub-Pixel Snow Cover Mapping Products Derived from AVHRR Data as Well as Recent Results from Application of Artificial Neural Network to Estimating Snow Under Clouds in AVHRR Imagery.” National Snow and Ice Data Center, Boulder, Colorado, January 25.
- 2001 S.R. Fassnacht, K.A. Dressler, D.J. Lampkin, S.R. Helfrich, R.C. Bales, and B. Imam. (2001b). “Comparing AVHRR and Hydrologically Modeled Discontinuous Alpine Snow-Covered Area Estimates.” *IEEE 2001 International Geoscience and Remote Sensing Symposium*, Sydney, Australia, July 9-13.
- 2001 Lampkin, D.J., S. Yool, and B. Imam. “Mapping Snow Cover Area and Vegetation in the Colorado Basin.” American Society of Photogrammetry and Remote Sensing Annual Meeting, St. Louis, Missouri, April 23-27.
- 2000 Lampkin, D.J. “Comparison of Fraction versus Binary Satellite-Derived Snow Cover Maps for the Colorado River Basin.” American Geophysical Union, Fall Meeting, San Francisco, California, December, 15-19.
- 2000 Lampkin, D.J. and B. Imam. “Southwest Regional Earth Science Application Center: Applications of Remote Sensing to Southwest Water Resources.” National Geographic Information Systems Conference, Crystal Bay, Nevada, September 29 - October 3.
- 1994 Zimelman, J.R., B. Campbell, J. Kousoum, and D.J. Lampkin. “Numerical Simulation of Lava Flows: Applications to the Terrestrial Planets.” Lunar and Planetary Institute, 24th Annual Lunar and Planetary Science Conference, Part-3, pp. 1577-1578.

Refereed Abstracts

- 2014 Ring, A. M., D.J. Lampkin. “Spatio-Temporal Variability of Saturated Crevasses along the Margins of Jakobshavn Isbræ. American Geophysical Union, Fall Meeting, 2014, San Francisco, California.
- 2014 Lampkin, D.J., B.R. Parizek, E. Larour, H. Seroussi, and M. Morlighem. “Shear Weakening due to Drainage from Water-Filled Crevasses along the Margins of Jakobshavn Isbræ. American Geophysical Union, Fall Meeting, 2014, San Francisco, California.
- 2009 Lampkin, D.J. Examining the Relationship between Surface Melt Magnitude and Outlet Glacier Terminus Changes using coupled MODIS Optical and Thermal Signatures and LANDSAT over Vatnajokull Ice Cap from 2000-2008. American Geophysical Union, Fall Meeting, 2009, San Francisco, California.
- 2009 N. Amador, Lampkin, D.J., K. Farness, and K. Jezek. Examining Spatio-Temporal Relationships between Supra-Glacial Lake Distribution and Surface Velocity Fields in Western Greenland. American Geophysical Union, Fall Meeting, 2009, San Francisco, California.

- 2008 ^*Lampkin, D.J. Spatio-Temporal Variability of Melt Intensity Over the Greenland Ice Sheet from 2000-2005 Using Coupled MODIS Optical and Thermal Measurements. *EOS Transactions, AGU, Fall Meeting, Suppl.*, C21A-0502, Vol. 89, No. 53, pp. 1.
- 2008 *#C. Karmosky, ^Lampkin, D.J. Surface Melt Magnitude Retrieval Over Ross Ice Shelf, Antarctica Using Coupled MODIS Optical and Thermal Satellite Measurements During the 2002-03 Melt Season. *EOS Transactions, AGU, Fall Meeting Suppl.*, C31D-0544, Vol. 89, No. 53, pp. 1.
- 2008 *#A. Hurley, ^Lampkin, D.J.. Investigating Crevasse Structure Impact on Glacial Sub-Surface Ice Temperature Distribution with Implications for Moulin Formation. *EOS Transactions, AGU, Fall Meeting Suppl.*, C31C-0527, Vol. 89, No. 53, pp. 1.
- 2008 *#K. Kennedy, ^Lampkin, D.J. Evaluating Spatio-Temporal Characteristics of Supra-Glacial Lakes in Western Greenland during the 2007 Melt Season using SPOT and LANDSAT Data. *EOS Transactions, AGU, Fall Meeting Suppl.*, C31A-0475, Vol. 89, No. 53, pp. 1.
- 2007 *Howard, A, D.J. Lampkin, M. Engersted, P. Spollen, N. Mercurio, J. Allshouse, D. Santarelli, #C. Karmosky. Development of Autonomous, Robotic Meteorological Stations for Improved Ice Sheet Climate Monitoring. *EOS Transactions, AGU, Fall Meeting, Suppl.*, IN24A-04, Vol. 88, No. 52, pp. 1.
- 2007 *#Peng, R, ^D.J. Lampkin, K. Steffen. Empirical Retrieval of Surface Melt Intensity using coupled MODIS Optical and Thermal Measurements over the Greenland Ice Sheet. *EOS Transactions, AGU, Fall Meeting, Suppl.*, C23A-0939, Vol. 88, No. 52, pp.1.
- 2007 ^*Lampkin, D.J. No More Snow Pits? Potential to Retrieve Bulk Snow Pack Structure from Transient Barometric Pressure Waves measured from a Prototype Embedded Wireless Sensor Network. *EOS Transactions, AGU, Fall Meeting, Suppl.*, C21B-0458, Vol. 88, No. 52, pp. 1.
- 2004 ^*Lampkin, D.J., A. Nolin, and S. Yool. Tracking the Duration and Magnitude of Snow Albedo and Temperature Coupling During the Ablation Season. *EOS Transactions, AGU, Fall Meeting, Suppl.*, C23A-0979, Vol. 85, No. 47, pp. 1.
- 2003 ^*Lampkin, D.J. and S. Yool. Monitoring Mountain Snow Pack Evolution Using Near Surface Optical and Thermal Properties. *EOS Transactions, AGU, Fall Meeting Suppl.*, C41B-0968, Vol. 84, No. 46, pp. 1.
- 2003 *Bales, R.C., B. Imam, D.J. Lampkin, S. R. Helfrich, and S. R. Fassnacht. Fractional Snow Cover in the Colorado River and Rio Grande Basins, 1995–2002. Presentation at the 80th Annual Meeting of the American Meteorological Society. (*Symposium on Observing and Understanding the Variability of Water in Weather and Climate and the 17th Conference on Hydrology*), Long Beach, CA, February 9-13.
- 2002 Bales, R.C., B. Imam, D.J. Lampkin, S. R. Helfrich, S. R. Fassnacht, and R. E. Davis.

Fractional Snow Cover in the Colorado River and Rio Grande Basins, 1995-2002. *EOS Transactions*, AGU, Fall Meeting, Suppl., Vol. 83, pp. 1.

2001 Fassnacht, S.R., S.R. Helfrich, D.J. Lampkin, K.A. Dressler, R.C. Bales, E.B. Halper, D. Reigle, and B. Imam. A Snowpack Modeling of the Salt Basin with Water Management Implications. Proceedings of the 69th Annual Western Snow Conference, Sun Valley, Idaho, pp. 65-76.

2001 Imam, B, R.C. Bales, S. Sooroshian, S.R. Fassnacht, S. Helfrich, and D.J. Lampkin. Utility of Fractional Snow Cover in Water Resources Applications for Semi-Arid Regions. *EOS Transactions*, AGU, Spring Meeting Suppl., B41C-07, Vol. 82, No. 20, pp. 1.

2001 Lampkin, D.J., R.C. Bales, S.R. Fassnacht, and R.E. Davis. Comparison of Fraction versus Binary Satellite-Derived Snow Cover Maps for the Colorado Basin. *EOS Transactions*, AGU, Fall Meeting, Suppl., H52B-10, Vol. 82, No. 47, pp. 1.

2000 Dressler, K. A., S.R. Fassnacht, R.C. Bales, R.E. Davis, D.J. Lampkin, and D.E. Myers. Geostatistical Interpolation of Point-Measured SWE in the Colorado River Basin. *EOS Transactions*, AGU, Fall Meeting, Suppl., F397, Vol. 81, No. 48, pp. 1.

Symposia

2006 Invited Participant, 17th Annual National Academy of Sciences Frontiers of Science Symposium, Irvine, California, October 27-29.

Workshops

2018 Icelandic Ambassador's Residence, Geocamp Iceland/Greenland Reception December 12, Washington, D.C.

2018 "Pathways to Mission Leadership: Mission PI Diversity Workshop" NASA Workshop, November 27-28 Washington, D.C.

2013 "Understanding the Response of Greenland's Marine Terminating Glaciers to Oceanic and Atmospheric Forcing: Challenges to Improving Observations, Process Understanding and Modeling, US CLIVAR Workshop, June 4, Beverly, MA.

2006 "Improved Measurement for Assessment of Ice Sheet Stability in a Changing Climate." Presentation and Planning Meeting, Georgia Tech, Workshop for NASA AIST Project, October 19-21.

2006 Invited Participant, Antarctic New Investigators Workshop, National Science Foundation, Washington, D.C., August 21-26.

2006 “Optical Remote Sensing for Monitoring Evolution of Ablation Season Mountain Snow Cover.” Presentation, Midwest Glaciology Meeting, The Pennsylvania State University, April 22.

2005 “Optical Satellite Remote Sensing for Monitoring Mountain Snowmelt.” Presentation, 4th Workshop of European Association of Remote Sensing Laboratories (EARSEL)-Land Ice and Snow Group, Bern, Switzerland, February 21-23.

2005 “Ground Based Radiometry to Support Assessment of Snowmelt Discharge Timing”, Pennsylvania Ice Group (PICE), Department of Geoscience, February 3.

2004 “Optical Satellite Remote Sensing for Mapping Alpine Snowmelt.” Poster Presentation at NASA Snow and Ice User Workshop, Greenbelt, Maryland, November 15-17.

2004 “Monitoring Mountain Snow Pack Evolution Using Near Surface Optical and Thermal Properties, Poster Presentation at the First Symposium for the Earth Systems Scholars Network, October 27-29, Adelphi, Maryland.

2004 “Monitoring Mountain Snow Pack Evolution Using Near Surface Optical and Thermal Properties.” Oral Presentation at the International Geoscience and Remote Sensing Symposium entitled, “Science for Society: Exploring and Managing a Changing Planet.” September 20-24, Anchorage, Alaska, supported under the Minority Student Travel Program (MSTP).

Professional Publications

Reports and Non-Refereed Monographs

^*Lampkin, D.J. (2008), Acquisition of Portable Field Spectrometer for Research in Cryosphere Processes and Remote Sensing Education. Annual Profess Report for NSF Earth Science/Instrumentation and Facilities (EAR/IF)-EAR065135. Department of Geography, The Pennsylvania State University, PA.

*Howard, A., M. Egerstedt, and D.J. Lampkin (2008), Reconfigurable Sensor Networks for Fault Tolerant, In-Situ Sampling. 2nd Year Annual Report for NASA Advanced Information Systems Technology (AIST) -AIST 05-AIST05-0006. Department of Electrical Engineering, Georgia Institute of Technology, Atlanta, GA, Department of Geography, Pennsylvania State University, PA.

*Howard, A., M. Egerstedt, and D.J. Lampkin (2006), Reconfigurable Sensor Networks for Fault-Tolerant, In-Situ Sampling. 1st Year Quarterly Report for NASA Advanced Information Systems Technology (AIST) -AIST 05-AIST05-0006. Department of Electrical Engineering,

Georgia Institute of Technology, Atlanta, GA, Department of Geography, Pennsylvania State University, PA.

Contributed to Integrated Global Observing Strategy (IGOS) Cryosphere Theme report commissioned by World Climate Research Program (WCRP) and Scientific Committee on Antarctic Research (SCAR), submitted December 2006.

Contribution to the Integrated Global Observing Strategy (IGOS) Cryosphere Theme report (section 11.2 Ground-Based Observations)

http://stratus.ssec.wisc.edu/cryos/docs/cryos_theme_report.pdf (Author List: <http://stratus.ssec.wisc.edu/igos-cryo/team.html>). This contribution highlights the importance of robotic ground-based technologies and their potential value in improving monitoring of ice sheet mass balance and stability.

K. C. Jezek, C. Merry, D. Cavalieri, S. Grace, J. Bedner, D. Wilson, and **D. Lampkin** (1992), Comparison between SMMR and SSM/I passive microwave data collected over the Antarctic Ice Sheet. *Byrd Technical Report*, No. 91-03.

D. Wilson, K.C. Jezek, S. Grace, **D. Lampkin** (1993), Co-registration of a 1989 Antarctic digital elevation model with SSM/I brightness temperature data and animation of time series data. *Byrd Technical Report*, No. 92-02.

Book Reviews, Notes, and Other Contributions

Book Reviews

2018-Roger Barry and Thian Yew Gan's, *The Global Cryosphere: Past, Present and Future*. Cambridge University Press.

Completed Creative Works

Datasets

Greenland Surface Melt Magnitude Archive

A record of supraglacial surface melt amount derived from empirical inversion retrievals using combined MODIS optical and thermal imagery from 2001 to 2017. Submitting to NSF Arctic Data Center. Project supported under NSF Award Number: 1304780.

Decadal Archive of Water-Filled Crevasse Extent over Jakobshavn Outlet Glacier:

Lampkin, D.L., B. Parizek, E. Larour, H. Seroussi, #C.A. Joseph, and J. P. Cavanagh (2018), Towards improved understanding of changes in Greenland outlet glacier shear margin dynamics in a warming climate. *Frontiers in Science, Cryosphere*

Inventions

Developed a cost-effective prototype apparatus using off-the-shelf proprietary (Crossbow®) micro-wireless to improve acquisition of internal snowpack properties in alpine environments. The prototype sensor column was deployed in March 2006, the NSF supported Niwot Ridge, Long-Term Ecological Research (LTER) site. Instruments successfully measured snow depth, temperature, pressure over a week period.

Significant Works in Public Media

Specify the following – Title, Publication/Media Name, Contributors, Types (Print, online, broadcast, video, documentary)

Explanatory, Investigative, or Long-Form Journalism

Documentary content for middle school science curriculum focused on Ice Sheets in a Warming Climate for the Lawrence Hall of Science, University of California, Berkeley/Amplify Production Company.

Sponsored Research

Grants

Period: 2007 – 2008
Title: Acquisition of Portable Field Spectrometer for Research in Cryosphere Processes and Remote Sensing Education
Agency: NSF-Geoscience Instrumentation Program
Amount: \$69,458
Role: PI

Period: 2008 – 2009
Title: Field Campaign to Support Satellite-Based Approach for Improved Monitoring of Mountain Snowpack Melt Discharge
Agency: NASA-Terrestrial Hydrology Program
Amount: \$43,540
Role: PI

Period: 2006 – 2009
Title: Reconfigurable Sensor Networks for Fault-Tolerant In-Situ Sampling
Agency: NASA-Advanced Information Systems Technology Program
Amount: \$259,117
Role: Co-PI

Period: 2010 – 2013
Title: Investigating Structural Controls on Spatio-Temporal Distribution of Supra-Glacial Lakes on the Greenland Ice Sheet using ICESat AND CryoSat-2
Agency: NASA-Studies with ICESat and CryoSat-2

Amount: \$296,500
Role: PI

Period: 2009 –2011; with performance-based option 2011-2012
Title: Mesoscale Climate Controls on Antarctic Ice Shelf Melt Dynamics: Climate Modeling and Novel retrieval of Melt magnitude using MODIS
Agency: NASA-Earth and Space Science Fellowship (C. Karmosky)
Amount: \$30,000/year, \$60,000 awarded
Role: PI

Period: 2010 –2012
Title: EAGER: Are the Dry Valleys Getting Wetter? A Preliminary Assessment of Wetness across the McMurdo Dry Valleys Landscape
Agency: NSF-Antarctic Science
Amount: \$171,400
Role: Co-PI

Period: 2011-2013
Title: Collaborative Research: Decoding & Predicting Antarctic Surface Melt Dynamics with Observations, Regional Atmospheric Modeling and GCMs
Agency: NSF-Antarctic Science
Amount: \$257,801
Role: Co-PI

Period: 2014-2016
Title: Collaborative Research: Decoding & Predicting Greenland Surface Melt History and Future with Observations, Regional Atmospheric Modeling and GCMs
Agency: NSF-Arctic Science
Amount: \$380,000
Role: Co-PI

Period: 2014-2017
Title: Utilizing MODIS for a Novel Retrieval of Surface Melt Magnitude over the Greenland Ice Sheet
Agency: NASA-Cryospheric Science NNH09ZDA001N-Cryo
Amount: \$283,219
Role: PI

Period: Current
Title: Riding the Cryo-Hydrologic Conveyor: Rheological Modifications of Ice and Impact on Jakobshavn Isbrae Flow Dynamics
Agency: NASA- NNX17AK13G
Amount: \$120,000
Role: PI

Period: Current

Title: Evaluating Recent Changes in the Percolation Zone of the Greenland Ice Sheet using Airborne Radar and Satellite-Based Estimates of Melt Magnitude

Agency: NASA

Amount: \$120,000

Role: PI

Period: Current

Title: Investigation of the Smooth Flows on the Surface of Comet Tempel 1

Agency: NASA

Amount: \$175,541

Role: Co-PI

Fellowships, Gifts and Other Funded Research

Fellowships

NASA Earth System Science Fellow 2003-2005

Centers for Research, Scholarship, and Creative Activities

Other

Affiliate research scientist conducting collaborative work with personnel at the Earth System Science Interdisciplinary Center (ESSIC)

Managing Role of the ground-based Greenland/Swiss Camp GPS Network in Western Greenland as collaborative effort with Dr. Jay Zwally (NASA/ESSIC) and Dr. Konrad Steffen (ETH).

Other Research/Scholarship/Creative Activities

-Research Expedition to the Greenland Ice Sheet (May, 2015)

-Research Expedition to Antarctic Dry Valleys (Austral, 2011)

-Research Expedition to west Antarctic Ice Stream (Whillans) and Byrd Station (Austral, 1993)

Teaching, Mentoring and Advising.

Courses Taught

Course Taught at University of Maryland

Spring 2016	AOSC 424	Remote Sensing of the Atmospheres and Oceans	28
Fall 2017	AOSC 658L	Ice and Climate: Graduate Course	8
Spring 2016	AOSC 424	Remote Sensing of the Atmospheres and Oceans	33
Fall 2015	AOSC 123	Causes and Consequences of Climate Change	37
Spring 2015	AOSC424	Remote Sensing of the Atmospheres and Oceans	32
Spring 2015	AOSC818	Frontiers in Atmospheric, Ocean, Climate, and Synoptic Meteorology Research: A Seminar-based course. Discontinued due to Departmental Assessment that course for several years before was not effective.	3
Fall 2014	AOSC818	Frontiers in Atmospheric, Ocean, Climate, and Synoptic Meteorology Research	6
Spring 2014	AOSC818	Frontiers in Atmospheric, Ocean, Climate, and Synoptic Meteorology Research	4
Fall 2013	AOSC818	Frontiers in Atmospheric, Ocean, Climate, and Synoptic Meteorology Research	18

Course Taught at Pennsylvania State University

Spring 2009	GEOG 115	Landforms of the World	64
Spring 2009	GEOG 497D	Radiometric Principles: Radiative Modeling for Remote Sensing of Earth	9

Surface Materials			
Spring 2009	METEO 597A	Remote Sensing of Earth Systems	19
Fall 2009	GEOG 362	Image Analysis	29
Spring 2008	GEOG 115	Landforms of the World	69
Spring 2008	GEOG 497D	Radiometric Principles: Radiative Modeling for Remote Sensing of Earth Surface Materials	7
Spring 2008	METEO 597A	Remote Sensing of Earth Systems	8
Fall 2008	GEOG 362	Image Analysis	37

Teaching Innovations

Course or Curriculum Development

-Integrated project-based activities into AOSC 424 requiring students to present research during Department Senior Thesis Symposium. Has been a successful event for last three years resulting in increased enrollment of students from Aerospace Engineering (AE) and addition of course to AE curriculum as elective.

-Developed and offered the first graduate-level course on Ice and Climate focused on ice sheet dynamics ever taught at University of Maryland.

Advising

Undergraduate

Harrison Rose, B.S. (Atmospheric and Oceanic Sciences, University of Maryland),
Mentor (2015)

Dattler, Marissa, B.S. (Atmospheric and Oceanic Sciences, University of Maryland),
Supervisor (2014)

Lynn Montgomery, B.S. (Atmospheric and Oceanic Sciences, University of Maryland),
Supervisor (2014)

Casey, Joseph, M.S. (Atmospheric and Oceanic Sciences, University of Maryland),
Advisor (2014-2017)

Salvatore, Mark, B.S. (Geography-Honors Thesis), Advisor, Completed, Spring 2008, *Placed as Graduate Student at Brown University.*

Wade, Unique, (Electrical and Computer Engineering, Elizabeth City State University), SROP Advisor, Completed 2008.

Kennedy, Kirin (Geography, Pennsylvania State University), Advisor, Completed 2008.

Malingowsky, Julie (Meteorology, Pennsylvania State University), Advisor, Completed Spring 2008.

Hurley, Allison (Geography-Honors Thesis, Pennsylvania State University), Advisor, Graduated Summer 2009, *Placed as Graduate Student at University of Colorado, Boulder.*

Pedone, Richard (Mechanical Engineering, Pennsylvania State University), Senior Project Advisor, Completed Spring 2008.

McGraw, Anthony (Mechanical Engineering, Pennsylvania State University), Senior Project Advisor, Completed Spring 2008

Zedack, Daniel (Mechanical Engineering, Pennsylvania State University), Senior Project Advisor, Completed Spring 2008

Von Bredow, Hasso (Mechanical Engineering, Pennsylvania State University), Senior Project Advisor, Completed Spring 2008

Tumiran, Mohammad (Mechanical Engineering, Pennsylvania State University), Senior Project Advisor, Completed Spring 2008

Mercurio, Nicolas (Mechanical Engineering, Pennsylvania State University), Senior Project Advisor, Completed Spring 2006

Santarelli, David (Mechanical Engineering, Pennsylvania State University), Senior Project Advisor, Completed Spring 2006

Allshouse, Jason (Mechanical Engineering, Pennsylvania State University), Senior Project Advisor, Completed Spring 2006

Spollen, Peter (Mechanical Engineering, Pennsylvania State University), Senior Project Advisor, Completed Spring 2006

Master's

Justin Vanderberg (Geography, Pennsylvania State University), Advisor Graduated, Spring 2011

David Doughty (Meteorology, Pennsylvania State University), Committee Member, Graduated Fall, 2009

Justin, Randy (Geoscience, Pennsylvania State University), Committee Member, Graduated Fall 2012

Rui, Peng (Geography, Pennsylvania State University), Advisor, Completed Fall, 2007

Tollerud, Heather (Geoscience, Pennsylvania State University), Committee Member

Amy Solomon (Atmospheric and Oceanic Sciences, University of Maryland), Advisor, Graduated (Spring, 2015)

Carolyn Plank (Geology, University of Maryland), Committee Member

Doctoral

Karmosky, Christopher, (Geography, Pennsylvania State University), Advisor, Completed, Spring 2012, *Placed as Tenure-Track Faculty at University of Tennessee-Martin.*

Christianson, Knut (Geoscience, Pennsylvania State University), Committee Member, Completed Spring 2011, *Placed as Research Faculty at Center for Geophysical Studies of Ice and Climate, St. Olaf College.*

Winberry, Paul (Geoscience, Pennsylvania State University), Committee Member, Completed, Spring 2008, *Placed as Tenure-Track Faculty at Central Washington University.*

Zoet, Lucas (Geoscience, Pennsylvania State University), Committee Member, Completed Spring 2012, *Placed as Postdoctoral Research Faculty at Iowa State University.*

Argie Kavvada (Atmospheric and Oceanic Sciences, University of Maryland), Committee Member, Completed Spring 2014

Stephanie Johnston (Geology, University of Maryland), Committee Member, Current

Carolyn Anne Plank (Geology, University of Maryland), Committee Member, Current

Virginia Sawyer (Atmospheric and Oceanic Sciences, University of Maryland), Committee Member, Current

Ben Johnson (Atmospheric and Oceanic Sciences, University of Maryland), Committee Member, Current

Allison Ring (Atmospheric and Oceanic Sciences, University of Maryland), Supported, 2014-2015.

John Cavanagh, Candidate (Atmospheric and Oceanic Sciences, University of Maryland), Advisor, Current

Other Research Directions (*K-12 Interactions*)

-Developed and Supervised students (grades 8-12) at the German International School of Washington D.C. in the construction and launch of a payload for stratospheric launch via high altitude balloons in collaboration with the University of Maryland's NearSpace Group lead by Dr. Bowdin, Aerospace Engineering Department.

Advising: Other than Research Direction

Undergraduate

-Created minority student mentoring program Next generation minority Earth and Atmospheric Scientists (NExEAS) in the Department of Atmospheric and Oceanic Sciences. Mentored (8) minority students.

-Served as mentor to several minority students within the Department of Atmospheric and Oceanic Sciences informally.

-Involved in Department of Atmospheric and Oceanic Sciences recruiting efforts often meeting with visiting students and their families coordinated by department administrative assistant.

Service and Outreach

Editorships, Editorial Boards, and Reviewing Activities

Invited to serve as Associate Editor of Journal of Geophysical Research-Earth Surface for a (2/2019-12/2019) appointment specializing in Cryospheric Sciences.
JGR Earth Surface: Impact Factor: 3.34

Reviewing Activities for Journals and Presses

Journal Reviewer for *EOS*, 2015

Journal Reviewer for *The Cryosphere*, 2014

Journal Reviewer for *Nature-Geoscience*, 2012

Journal Reviewer for *Nature*, 2015

Journal Reviewer for *Remote Sensing of Environment*, 2012

Journal Reviewer for *Journal of Geophysical Research, Earth Surface*, 2011-2016

Journal Reviewer for *Remote Sensing of Environment*, 2011

Journal Reviewer for *International Journal of Remote Sensing*, 2010

Journal Reviewer for NASA Cold Land Processes Experiment (CLPX) Special Issue of the *Journal of Hydrometeorology*, 2007

Reviewing Activities for Agencies and Foundations

External reviewer for promotion of Dr. Tina Hulbe to level of Associate Professor at the University of Otago, New Zealand.

Panelist for NSF-Office of Polar Programs, Antarctic Geology (J. Palais, former program Manager), 2016

Panelist for NASA-Icebridge Research (T. Wagner, Program Manager), 2014

Panelist for NASA-Terrestrial Hydrology (J. Entin, Program Manager), 2014

Panelist for NASA-Measures Solicitation (Lucia Tsaoussi), 2012

Reviewer for NSF-Geoscience Instrumentation Program (R. Kelz Program Manager), 2008.

Reviewer for NSF-Geoscience Instrumentation Program (R. Kelz Program Manager), 2007 and 2008.

Reviewer for IEEE International Geoscience & Remote Sensing Symposium, 2008.

Panelist for NASA Terrestrial Hydrology Program (2010), (J. Entin, Program Manager)

Reviewer for NASA Cryospheric Program (2011), (T. Wagner, Program Manager)

Committees, Professional & Campus Service

Campus Service – Department

-Department of Atmospheric and Oceanic Sciences, Co-Director for Undergraduate Program, 2016, 2017

-Department of Atmospheric and Oceanic Sciences, Faculty Merit Committee, 2016

-Department of Atmospheric and Oceanic Sciences, Comprehensive Exam Committee, 2015, 2016

-Department of Atmospheric and Oceanic Sciences, Seminar Committee Chair, 2013, 2014

-Created the UMD Ice and Climate Research Group (comprised of students Goddard Cryospheric Sciences Branch personnel and faculty from the Department of Geology and Astrophysics).

Campus Service – University

University of Maryland, Faculty Senate, 2018

Leadership Roles in Meetings and Conferences

-Coordinating Member of NASA post-PARCA Strategic Planning Committee, 2015

-Appointed Member of American Geophysical Union (AGU), Cryosphere Section Executive Committee, Outreach Committee Chair (2007-2015), General Member, current.

-Session Chair for Eastern Snow Conference Meeting, May 2008, Fairlee, Vermont.

-Session Co-Chair, IEEE Remote Geoscience and Remote Sensing Symposium, IGARSS, September 2004, Anchorage, Alaska.

Other Non-University Committees, Memberships, Panels, etc.

- Aircraft Owners and Pilot's Association (AOPA) member
- Planetlab (Planet) satellite company Ambassador's Data User's Program (<https://www.planet.com/markets/education-and-research/>)
- Academic collaborator, Thumbsat, which manufactures and launches picosatellites.

External Service and Consulting

Corporate and Other Board Memberships

- Board Member of the German International School of Washington, D.C., 2017-present

Entrepreneurial Activities

- Created picosatellite launch company (↑160km, LLC), 2018.

Non-Research Presentations

Outreach Presentations

- UC. Berkley/Amplify Documentary for Cryosphere Science Middle School Curriculum, Film Participant (FA 2015).
- Center for Remote Sensing of Ice Sheets (CRESIS) Teacher's Workshop: "The Heat is On! Confronting Climate Change in the Classroom, Lecturer (Su 2010) (High School Teachers)
- Panelist for Graduate Seminar Series on Professionalization (Spring 2007)

Media Contributions

Print Media

- Lampkin, D.J., Polar robots do a cold job. *Geotimes*, October 2007.

Awards, Honors and Recognition

Research Fellowships, Prizes and Awards

- NASA Earth System Science Fellowship

Service Awards and Honors

- Distinguished Scholar Award, Elizabeth City State University.