

Curriculum Vitae

Dr. John M. Peters

Personal Information

Current Affiliation and Position

Colorado State University – Department of Atmospheric Science
NSF Postdoctoral Fellow

Work Address

Colorado State University
Department of Atmospheric Science
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Education

- 2015** **Colorado State University, Ph.D. Atmospheric Science**
Advisor: Dr. Russ Schumacher
- 2012** **University of Wisconsin-Milwaukee, M.S. Mathematics,**
(Atmospheric Science Focus)
Co-Advisor: Dr. Paul Roebber
Co-Advisor: Dr. Sergey Kravtsov
- 2010** **University of Wisconsin-Milwaukee, B.S. Mathematics,**
(Atmospheric Science Focus)
Undergraduate Research Advisors: Dr. Paul Roebber, Dr. Sergey Kravtsov

Peer-Reviewed Publications

- (10) **Peters, J. M.** and R. S. Schumacher, 2016: Dynamics Governing a Simulated Mesoscale Convective System with a Training Convective Line. *J. Atmos. Sci.*, **(in press)**
- (9) Nielsen E. R., G. R. Herman, R. C. Tournay, **J. M. Peters**, and Schumacher, R. S, 2015: Double Impact: When both Tornadoes and Flash Floods Threaten the Same Place at the Same Time. *Wea. Forecasting*, **30**, 1673-1693.
- (8) **Peters, J. M.** and R. S. Schumacher, 2015: The Simulated Structure and Evolution of a Quasi-Idealized Warm Season Convective System with a Training Convective Line. *J. Atmos. Sci.*, **72**, 1987-2010.
- (7) **Peters, J. M.** and R. S. Schumacher, 2015: Mechanisms for Organization and Echo Training in a Flash-Flood-Producing Mesoscale Convective System. *Mon. Wea. Rev.*, **143**, 1058-1085.
- (6) **Peters, J. M.** and P. J. Roebber, 2014: Synoptic Control of Heavy-Rain-Producing Convective Training Episodes. *Mon. Wea. Rev.*, **142**, 2464–2482.
- (5) **Peters, J. M.** and R. S. Schumacher, 2014: Objective Categorization of Heavy-Rain-Producing MCS Synoptic Types by Rotated Principal Component Analysis. *Mon. Wea. Rev.*, **142**, 1716–1737.
- (4) Wyatt, M. G. and **J. M. Peters**, 2012: A secularly varying hemispheric climate-signal propagation previously detected in instrumental and proxy data not detected in CMIP3 data base. *SpringerPlus*. **68**. 10.1186/2193-1801-1-68. Website: <http://dx.doi.org/10.1186/2193-1801-1-68>
- (3) **Peters, J. M.** and S. Kravtsov, 2012: Origin of Non-Gaussian Regimes and Predictability in an Atmospheric Model. *J. Atmos. Sci.*, **69**, 2587-2599.
- (2) **Peters, J. M.**, S. Kravtsov, and N. T. Schwartz, 2012: Predictability Associated with Nonlinear Regimes in an Atmospheric Model. *J. Atmos. Sci.*, **69**, 1137–1154.
- (1) Kravtsov, S., I. Kamenkovich, A. M. Hogg, and **J. M. Peters**, 2011: On the mechanisms of late 20th century sea-surface temperature trends over the Antarctic Circumpolar Current. *J. Geophys. Res. Oceans*, **116**, C11034.

Articles in Preparation/Review

- (11) **Peters, J. M.**, 2016: Using relative buoyancy to refine theoretical expressions for 2-dimensional updrafts. *J. Atmos. Sci.*, **(submitted)**

(12) **Peters, J. M.**, R. S. Schumacher, and S. M. Hitchcock, 2016: Observations of an Elevated MCS environment during the PECAN field campaign. *Mon. Wea. Rev.*, **(in preparation)**

Grants/Awards

National Science Foundation Postdoctoral Fellowship Award (2015-2017) **\$172,000**

University of Wisconsin-Milwaukee: Dharendra Sikdar Scholarship in Atmospheric Science (2012) **\$1,000**

Teaching Experience

<i>Year (Semester)</i>	<i>Position: Class (Primary Instructor[s])</i>
2014 (Spring)	Teaching Assistant: Mesoscale Meteorology (Dr. Russ Schumacher)
2013 (Spring)	Teaching Assistant: Mesoscale Meteorology (Dr. Russ Schumacher)
2011 (Fall)	Teaching Assistant: Synoptic Meteorology II (Dr. Paul Roebber, Janel Hanrahan, Dr. Kyle Swanson)
2011 (Spring)	Teaching Assistant: Synoptic Meteorology I (Dr. Paul Roebber)

Field Work and Weather Forecasting Experience

2016: ***Verification of the Origins of Rotation in Tornadoes Experiment (VORTEX)-Southeast***

- Will conduct collaborative research to investigate the meteorological conditions associated with, and societal impacts of, combined tornado and flash flood threats in the southeastern United States

June 2015: ***Plains Elevated Convection at Night***

(PECAN, https://www.eol.ucar.edu/field_projects/pecan)

- Participated in CSU mobile sounding operations

July/August 2014: ***Front Range Air Pollution and Photochemistry Experiment (FRAPPE)***

- Provided nowcasts of front range convection for flight operations

May/June 2013: ***Mesoscale Predictability Experiment***

(MPX, https://www.eol.ucar.edu/field_projects/mpex)

- Participated in field operation briefings/forecasts
- Participated in CSU mobile sounding operations from 31 May to 14 June, in coordination with NSSL, Purdue, and Texas A&M mobile teams

2008-2012: ***Innovative Weather*** (<http://www.innovativeweather.com/alumni.php>)

- Provided short-to-medium range forecasts of severe weather, wind, snow, and rain for various clients in the Midwest

- Provided real-time, high-impact weather coverage for clients
- Mentored interns and employees

Workshops

2016 Center for Multiscale Modeling of Atmospheric Processes (CMMAP) annual team meeting, Boulder, CO

2013, 2014 Studies of Precipitation, Flooding, and Rainfall Extremes Across Disciplines (SPREAD) workshop

Recent Conference Presentations and Seminars

(Presenter listed as first author)

Peters, J. M. 2016: Observations of an Elevated MCS environment during the PECAN field campaign. *Texas Tech University invited seminar. April 8, 2016.*

Peters, J. M., 2016: Using relative buoyancy to refine theoretical expressions for 2-dimensional updrafts. *University of Utah invited seminar. February 17, 2016.*

Peters, J. M., 2016: Using relative buoyancy to refine theoretical expressions for 2-dimensional updrafts. *Center for Multiscale Modeling of Atmospheric Processes (CMMAP) annual meeting, Boulder, CO. January 5, 2016.*

Peters, J. M., 2015: Toward an Improved Understanding of MCS propagation. *Annual American Geophysical Union (AGU) Meeting, San Francisco, CA.*

Peters, J. M., 2015: [Dynamics Governing the Maintenance and Evolution of a Simulated Mesoscale Convective System with a Training Convective Line](#). *Abstract. 16th Conf. on Mesoscale Processes, Boston, MA. Amer. Meteor. Soc. 10.3.*

Peters, J. M., 2015: Dynamics Governing Quasi-Stationary Mesoscale Convective Systems. *PhD defense – Colorado State University.*
<http://videos.atmos.colostate.edu/talks/watch/249>

Peters, J. M., 2015: Quasi-Stationary Mesoscale Convective Systems. *Seminar – National Center for Atmospheric Research. February 12, 2015.*

Peters, J. M. and Schumacher, R. S., 2014: [Mechanisms for Organization and Echo Training in a Flash-Flood-Producing Mesoscale Convective System](#). *Abstract, 27th Conf. on Severe Local Storms, Madison, WI, Amer. Meteor. Soc., 104.*

- Peters, J. M.** and Schumacher, R. S., 2014: [The Simulated Structure and Evolution of a Quasi-Idealized Warm Season Convective System with a Training Convective Line](#). *Abstract, 27th Conf. on Severe Local Storms, Madison, WI, Amer. Meteor. Soc.*, 158.
- Thompson, E. J., **Peters, J. M.**, Schumacher, R. S. and Rutledge, S. A., 2014: [Explaining low convective echo top heights during a strong DYNAMO westerly wind burst](#). *Proc. 31st Conference on Hurricanes and Tropical Meteorology, San Diego, California, Amer. Meteor. Soc.*, 198.
- Peters, J. M.** and Schumacher, R. S., 2014: [Mechanisms for Upwind Propagation and Heavy Rainfall Production in Elevated Training Mesoscale Convective Systems](#). *Abstract, 26th Conference on Weather Analysis and Forecasting / 22nd Conference on Numerical Weather Prediction, Atlanta, GA, Amer. Meteor. Soc.*,1A.3.
- Peters, J. M.** and Schumacher, R. S., 2013: [Quasi-Idealized Simulations of Training-Line/Adjoining-Stratiform Mesoscale Convective Systems: Warm-Season Type Events](#). *Abstract, 15th Conference on Mesoscale Processes, Portland, OR, Amer. Meteor. Soc.*,54.
- Peters, J. M.** and Schumacher, R. S., 2013: [Objective Analysis and Numerical Simulations of Elevated Heavy-Rain-Producing Mesoscale Convective Systems](#). *Abstract, 15th Conference on Mesoscale Processes, Portland, OR, Amer. Meteor. Soc.*,17.2.
- Roebber, P. J. and **Peters, J. M.**, 2013: [Synoptic Control of Heavy-Rain-Producing Convective Training Episodes](#). *Abstract, 15th Conference on Mesoscale Processes, Portland, OR, Amer. Meteor. Soc.*,17.1.
- Peters, J. M.** and Roebber, P. J., 2012: [Synoptic Control of Heavy-Rain-Producing Convective Training Episodes](#). *Abstract, 26th Conf. on Severe Local Storms, Nashville, TN, Amer. Meteor. Soc.*,15.2.

Professional Society Memberships

2007-present	American Meteorological Society
2010-present	American Geophysical Union
2010-2012	Geological Society of America

Community Outreach and Mentoring

Will Serve as Research Mentor to an Earth System Modeling and Education Institute (ESMEI), Summer 2016

Mentored 5th graders at O’Dea Core Knowledge Elementary School on science fair projects, February 19, 2016

Weather and Science Day at Coors Field, Little Shop of Physics, April 23, 2015

Participated in Mentoring a CMMAP undergraduate Intern, Summer 2013

President of the Atmospheric Sciences Club, University of Wisconsin-Milwaukee, 2010-2011