

## Scott T. Salesky

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## Research Interests

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Environmental Fluid Mechanics, Watershed Hydrology, Atmospheric Boundary Layer, Large Eddy Simulation, Turbulence, Evaporation, Land-Atmosphere Interactions, Snow and Sediment Transport, Multiphase Flows

## Education

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- 2014 **Ph.D. Meteorology**  
The Pennsylvania State University, University Park, PA  
**Dissertation:** *"Monin-Obukhov similarity and convective organization in the unstable atmospheric boundary layer"*
- 2010 **M.S. Meteorology**  
The Pennsylvania State University, University Park, PA  
**Thesis:** *"Similarity models of subfilter-scale energy and temperature variance for large eddy simulations of the atmospheric boundary layer."*
- 2008 **B.S. Science Education, Summa Cum Laude**  
Martin Luther College, New Ulm, MN

## Professional Appointments

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- 2014–present **Postdoctoral Fellow**, Department of Civil Engineering  
The University of British Columbia
- 2008–2014 **Graduate Research Assistant**, Department of Meteorology  
The Pennsylvania State University

## Honors and Awards

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- 2014 **Penn State Alumni Association Dissertation Award**  
The Pennsylvania State University
- 2014 **John C. Wyngaard Graduate Research Award**  
Department of Meteorology, The Pennsylvania State University

## Peer-Reviewed Publications

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Banerjee, T., G.G. Katul, **S.T. Salesky**, and M. Chamecki (2014) Revisiting the formulations for longitudinal velocity variance in the unstable atmospheric surface layer. *Quarterly Journal of the Royal Meteorological Society*, **141**(690):1699–1711. [[DOI](#)]

**Salesky, S.T.**, G.G. Katul, and M. Chamecki (2013) Buoyancy effects on the integral lengthscales

and mean velocity profile in atmospheric surface layer flows. *Physics of Fluids*, **25**,105101. [DOI]

**Salesky, S.T.** and M. Chamecki (2012) Random errors in turbulence measurements in the atmospheric surface layer: implications for Monin-Obukhov similarity theory. *Journal of the Atmospheric Sciences*, **69**(12):3700-3714. [DOI]

**Salesky, S.T.** and M. Chamecki (2012) A similarity model of subfilter-scale energy for large eddy simulations of the atmospheric boundary layer. *Boundary-Layer Meteorology*, **145**(1):69-91. [DOI]

**Salesky, S.T.**, M. Chamecki, and N.L.Dias (2012) Estimating the random error in eddy-covariance based fluxes and other turbulence statistics: the filtering method. *Boundary-Layer Meteorology*, **144**(1):113-135. [DOI]

## Manuscripts in Preparation

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**Salesky, S.T.**, M. Giometto, M. Chamecki, M. Lehning, and M.B. Parlange (2015) The preferential deposition of snow in complex terrain: a large eddy simulation study.

**Salesky, S.T.**, M. Chamecki, and E. Bou-Zeid (2015) On the nature of the transition between roll and cellular organization in the convective boundary layer.

## Invited Talks

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**Salesky, S.T.**, 2014. Turbulent transport and convective organization in the unstable atmospheric boundary layer. Fluids Laboratory Seminar. University of British Columbia. April 9, 2014.

**Salesky, S.T.**, and M. Chamecki, 2011. Deviations from Monin-Obukhov similarity. Department of Meteorology 'Frank' Talk. The Pennsylvania State University, October 28, 2011.

## Conference Presentations

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**Salesky, S.T.**, M. Giometto, M. Chamecki, and M.B. Parlange, 2015. Blowing snow in complex terrain - an LES investigation. International Conference on Model Integration Across Disparate Scales in Complex Turbulent Flow Simulation. State College, PA, June 15-17, 2015.

Banerjee, T., G.G. Katul, **S.T. Salesky**, and M. Chamecki, 2014. Logarithmic scaling in the longitudinal velocity variance explained by a spectral budget in a neutral and unstable atmosphere. APS March Meeting, Denver, CO, March 3-7, 2014.

**Salesky, S.T.**, G.G. Katul, and M. Chamecki, 2013. Buoyancy effects on the mean velocity profile in atmospheric surface layer flows. 66th Annual Meeting, APS/DFD. Pittsburgh, PA, November 24-26, 2013.

**Salesky, S.T.** and M. Chamecki, 2012. Scatter in plots of Monin-Obukhov similarity functions: random errors or missing physics? American Meteorological Society 20th Symposium on Boundary Layers and Turbulence. Boston, MA, July 8-13, 2012.

Chamecki, M. and **S.T. Salesky**, 2012. A new approach to estimate random errors in turbulence statistics. American Meteorological Society 20th Symposium on Boundary Layers and Turbulence. Boston, MA, July 8-13, 2012.

Chamecki, M., and **S.T. Salesky**, 2011. Spatial locality of turbulent fluxes: toward local flux-gradient relationships in the atmospheric surface layer. Fall Meeting, AGU. San Francisco, CA, December 5-9, 2011.

**Salesky, S.T.**, and M. Chamecki, 2011. Spatial locality of turbulent fluxes: the filtering approach.

64th Annual Meeting, APS/DFD. Baltimore, MD, November 20, 2011.

**Salesky, S.T.** and M. Chamecki, 2011: A similarity model of subfilter-scale scalar variance for large eddy simulations of the atmospheric boundary layer. 14th Annual Environmental Chemistry Student Symposium. The Pennsylvania State University, April 9, 2011.

**Salesky, S.T.** and M. Chamecki, 2010: A local model of the subfilter-scale energy for LES of the atmospheric boundary layer. 19th Symposium on Boundary Layers and Turbulence, Keystone, CO, August 6, 2010.

**Salesky, S.T.** and M. Chamecki, 2010: A similarity model of the subfilter-scale energy for LES of the ABL. John C. Wyngaard Symposium, The Pennsylvania State University, June 25, 2010.

## Teaching Experience

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### The Pennsylvania State University

Spring, 2014    Substitute Lecturer, *Atmospheric Dynamics* (6 lectures)  
Spring, 2013    Teaching Assistant, *Application of Computers to Meteorology*  
Fall, 2008      Teaching Assistant, *Introductory Meteorology*

## Professional Memberships

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American Geophysical Union  
American Physical Society  
American Meteorological Society

## Other Professional Activities

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Reviewer of manuscripts for *Advances in Water Resources*, *Atmospheric Science Letters*, *Boundary-Layer Meteorology*, *Environmental Fluid Mechanics*, *Journal of the Atmospheric Sciences*, *Weather and Forecasting*

Invited participant to Tutorial School on Fluid Dynamics: Topics in Turbulence. May 2010, Center for Scientific Computation and Mathematical Modeling, University of Maryland, College Park, MD

## Personal

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United States citizen

Last updated: September 22, 2015