Scott T. Salesky
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Research Interests

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

Education

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

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

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

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]

Submitted Manuscripts

Chamecki, M., N.L. Dias, and **S.T. Salesky** (2015) Scaling laws for the structure function in the atmospheric surface layer. Under consideration by *Physics of Fluids*.

Manuscripts in Preparation

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

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

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

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

American Geophysical Union
American Physical Society
American Meteorological Society

Other Professional Activities

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

United States citizen

Last updated: October 8, 2015