

CURRICULUM VITAE

LULIN XUE

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EDUCATION:

Ph.D.	Meteorology, Saint Louis University	Sep. 2009
M.S.	Meteorology, Saint Louis University	May 2006
B.S.	Atmospheric Physics University of Science and Technology in China (USTC)	Jun. 2002

PROFESSIONAL EXPERIENCE:

May 2012 – present	Project Scientist I in Research Applications Laboratory (RAL) at NCAR
Oct. 2009 – May 2012	Advanced Study Program postdoctoral fellow in Research Applications Laboratory (RAL) at NCAR
Oct. 2008 & Mar. 2009	Visitor of Research Applications Laboratory (RAL) at NCAR
Mar. 2008 – Sep. 2009	Teaching Assistant, Department of Earth and Atmospheric Sciences Saint Louis University
Oct. 2007 – present	Member of the “Aerosols, Clouds, Precipitation and Climate” (ACPC) project
Sep. 2007 – Feb. 2008	Visitor of The Institute for Integrative & Multidisciplinary Earth Studies (TIIMES) at NCAR
May 2004 – Feb. 2008	Research Assistant, Department of Earth and Atmospheric Sciences Saint Louis University

PROFESSIONAL ASSOCIATIONS:

Jan. 2006 – present	Member of American Meteorology Society
Jan. 2006 – present	Member of American Geophysical Union
Jan. 2006 – Sep. 2009	Member of AMS local chapter at Saint Louis University

AWARDS:

Oct. 2009 – Sep. 2011	Advanced Study Program postdoctoral fellow at NCAR
Jul. 2008 – Aug. 2008	Recipient of Geophysical Turbulence Summer School supported by Institute for Mathematics Applied to Geosciences (IMAGe) at NCAR
Apr. 2008	1st place in physical sciences division at Saint Louis University 14th annual graduate research symposium
Sep. 2007 – Mar. 2008	Recipient of Graduate Student Visitor Program (GVP) supported by NCAR Advanced Study Program (ASP)

Mar. 2007

1st place in physical sciences division at Saint Louis University
13th annual graduate research symposium

PEER-REVIEWED PUBLICATIONS:

- Xue, L.**, S. Tessendorf, E. Nelson, R. Rasmussen, D. Breed, S. Parkinson, P. Holbrook, and D. Blestrud, 2013: Implementation of a Silver Iodide Cloud Seeding Parameterization in WRF: Part 2: 3D Simulations of Actual Seeding Events and Sensitivity Tests. *J. Appl. Meteor. Climatol.*, **52**, 1458-1476.
- Xue, L.**, A. Hashimoto, M. Murakami, R. Rasmussen, S. Tessendorf, D. Breed, S. Parkinson, P. Holbrook, and D. Blestrud, 2013: Implementation of a Silver Iodide Cloud Seeding Parameterization in WRF: Part 1: Model Description and Idealized 2D Sensitivity Tests. *J. Appl. Meteor. Climatol.*, **52**, 1433-1457.
- Teller, A., **L. Xue**, and Z. Levin, 2012: The effects of mineral dust particles, aerosol regeneration and ice nucleation parameterizations on clouds and precipitation. *Atmos. Chem. Phys.*, **12**, 9303-9320, doi:10.5194/acp-12-9303-2012.
- Chen, Y.-C., M. W. Christensen, **L. Xue**, A. Sorooshian, G. L. Stephens, R. M. Rasmussen, and J. H. Seinfeld, 2012: Occurrence of Lower Cloud Albedo in Ship Tracks. *Atmos. Chem. Phys.*, **12**, 8223 - 8235, doi:10.5194/acp-12-8223-2012.
- Xue, L.**, A. Teller, R. Rasmussen, I. Geresdi, Z. Pan, and X. Liu, 2012: Effects of aerosol solubility and regeneration on mixed-phase orographic clouds and precipitation. *J. Atmos. Sci.* doi:10.1175/JAS-D-11-098.1.
- Lou X. F., Shi Y. Q., Sun J., **L. Xue**, Z. J. Hu, W. Fang, and W. G. Liu, 2012: Cloud-resolving model for weather modification in China. *Chin Sci Bull*, **57**: 10551061, doi: 10.1007/s11434-011-4934-9
- Chen, Y., **L. Xue**, Z. J. Lebo, H. Wang, R. M. Rasmussen, and J. H. Seinfeld, 2011: A comprehensive numerical study of aerosol-cloud-precipitation interactions in marine stratocumulus. *Atmos. Chem. Phys.*, doi:10.5194/acp-11-9749-2011
- Xue, L.**, A. Teller, R. Rasmussen, I. Geresdi, and Z. Pan, 2010: Effects of aerosol solubility and regeneration on warm-phase orographic clouds and precipitation simulated by a detailed bin microphysical scheme. *J. Atmos. Sci.*, doi: 10.1175/2010JAS3511.1.
- Muhlbauer, A., T. Hashino, **L. Xue**, A. Teller, U. Lohmann, R. Rasmussen, I. Geresdi, and Z. Pan, 2010: Intercomparison of aerosol-cloud-precipitation interactions in stratiform orographic mixed-phase clouds. *Atmos. Chem. Phys.* doi:10.5194/acp-10-8173-2010.
- Pan, Z., X.-B. Yang, X. Li, D. Andrade, **L. Xue**, and N. McKinne, 2010: Prediction of plant diseases through modeling and monitoring airborne pathogen dispersal - a review. *CAB Reviews*, PAVSNNR-D-09-00177R1.
- Li, X., P. Esker, Z. Pan, A. P. Dias, **L. Xue**, and X. B. Yang, 2010: "Unique" Characteristics of Asian Soybean Rust: Improved Understanding of the Risk in Different Regions of the World. *Plant Disease*. **94**, 796-806.
- Xue, L.** and Z. Pan, 2008: Ensemble calibration and sensitivity study of a surface CO₂ flux scheme using an optimization algorithm. *J. Geophys. Res.*, **113**, D10109.
- Pan, Z., X.B. Yang, S. Pivonia, **L. Xue**, R. Pasken, and J. Roads, 2006: Long-Term Prediction of Soybean Rust Entry into the Continental United States. *Plant Disease*, **90**, 840-846.

CONFERENCE ABSTRACTS:

2013

- Xue, L., A. Hashimoto, M. Murakami, S. Tessendorf, R. Rasmussen, E. Nelson, D. Breed, B. Lawrence, D. Blestrud, P. Holbrook, and S. Parkinson, 2013: AgI cloud seeding effects as seen in WRF simulations. *19th Conference on Weather Modification, 93 AMS annual meeting*, Austin, TX, Jan. 2013.
- Tessendorf, S., L. Xue, R. Rasmussen, D. Blestrud, P. Holbrook, and S. Parkinson, 2013: A real-time cloud seeding guidance system based on the WRF model. *19th Conference on Weather Modification, 93 AMS annual meeting*, Austin, TX, Jan. 2013.
- Rasmussen, R., L. Xue, S. Tessendorf, D. Blestrud, P. Holbrook, and S. Parkinson, 2013: Comparisons between WRF simulations and ground observed trace chemistry. *19th Conference on Weather Modification, 93 AMS annual meeting*, Austin, TX, Jan. 2013.
- Chu, X., L. Xue, B. Geerts, and B. Boe, R. Rasmussen, and D. Breed, 2013: Validation of WRF and WRF LES Simulations of the Dispersal of Ground-generated AgI Nuclei. *19th Conference on Weather Modification, 93 AMS annual meeting*, Austin, TX, Jan. 2013.

2012

- Xue, L., X. Chu, R. Rasmussen, D. Breed, B. Boe and B. Geerts, 2012: How well does WRF-LES disperse tracers over a mountain? An evaluation of AgI nuclei dispersal and the model's turbulence characteristics, 1st ASCII science meeting, Laramie, WY, Oct. 2012.
- Xue, L., 2012: The effect of vertical resolution on orographic precipitation and scalar transportation, 1st Pan-GASS conference meeting, Boulder, CO, Sep. 2012.

2011

- Xue, L., R. Rasmussen and D. Breed, 2011: AgI plumes in WRF LES simulations versus airborne measurements, *AGU 2011 Fall Meeting*, San Francisco, CA, Dec. 2011
- Xue, L., S. Tessendorf and R. Rasmussen, 2011: Winter time orographic cloud seeding effects in WRF simulations, *AGU 2011 Fall Meeting*, San Francisco, CA, Dec. 2011
- Xue, L., C. Liu, A. Hashimoto, R. Rasmussen, and D. Breed, 2011: Simulations of seeding effects on winter orographic clouds using a two-moment microphysics scheme with a AgI point source module, *18th Conference on Weather Modification, 91 AMS annual meeting*, Seattle, WA, Jan. 2011.

2010

- Xue, L. 2010: Externally Mixed Aerosols to Internally Mixed Aerosols: A Numerical Study of Cloud Processing Using a Bin Aerosol-microphysics Scheme Coupled with WRF, *AGU 2010 Fall Meeting*, San Francisco, CA, Dec. 2010
- Xue, L., I. Geresdi and R. Rasmussen, 2010: Cloud processing of internal mixed aerosol: A numerical study using a bin aerosol-microphysics scheme coupled with WRF, *13th Conference on Cloud Physics*, Portland, OR, Jun. 2010.
- Y-C Chen, Z. J. Lebo, L. Xue, R. Rasmussen, and J. H. Seinfeld, 2010: Aerosol-Cloud Relationships in Marine Stratocumulus, *13th Conference on Cloud Physics*, Portland, OR, Jun. 2010.
- Xue, L., A. Teller, Z. Pan, I. Geresdi, and R. Rasmussen, 2010: The effects of solubility and aerosol recycling on warm phase orographic clouds and precipitation: A modeling study using a WRF coupled with bin microphysics scheme, *EGU 2010 annual meeting*, Vienna, Austria, May, 2010

2009

- Xue, L., A. Teller, R. Rasmussen, I. Geresdi, and Z. Pan, 2009: A numerical study of aerosol

recycling using WRF coupled with a bin microphysics scheme. *11th Conference on Atmospheric Chemistry and Special Symposium on Aerosol–Cloud–Climate Interactions, 89 AMS annual meeting*, Phoenix, AZ, Jan. 2009.

2008

Xue, L., 2008: The important role of cloud microphysics in the multi-scale climate system. *Geophysical Turbulence Summer School*, Boulder, Colorado, Jul. 2008.

Ikeda, K., R. Rasmussen, C. Liu, G. Thompson, and L. Xue, 2008: Investigation of the dependence of squall line structure and dynamics on microphysical parameterization. *15th International Conference on Clouds and Precipitation*, Cancun, Mexico, Jul. 2008.

Pan, Z., L. Xue, C. Liu, and R. Rasmussen, 2008: Evaluation of the Southwest warming on cloud microphysics of propagating convective systems in the central U.S. *WMO cloud physics modeling workshop*, Cozmel, Mexico, Jul. 2008.

Xue, L., A. Teller, C. Liu, R. Rasmussen, and Z. Pan, 2008: Development and sensitivity test of two new WRF bin microphysics schemes. *9th WRF Users' Workshop*, Boulder, Colorado, Jun. 2008.

Xue, L. and Z. Pan, 2008: The effects of aerosol concentration on precipitation of squall lines. *The 14th Annual Graduate Research Symposium*, St. Louis University, Apr. 2008.

2007

Xue, L. and Z. Pan, 2007: Ensemble calibration and sensitivity tests of a photosynthesis model using an optimization algorithm. *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 2007.

Xue, L., X.B. Yang, X. Li, and Z. Pan, 2007: Medium-range forecasts of soybean rust spore dispersal in 2007, *2007 National Soybean Symposium*, Louisville, KY, Dec. 2007.

Yang, X.B., Z. Pan, L. Xue, and X. Li, 2007: Climate variability and soybean rust forecasts, *2007 National Soybean Symposium*, Louisville, KY, Dec. 2007.

Andrade, D., Z. Pan, W. Dannevik, and L. Xue, 2007: Estimating soybean rust spore escape rate from infected canopies using turbulent transport. *The 13th Annual Graduate Research Symposium*, St. Louis University, Mar. 2007.

Xue, L., and Z. Pan, 2007: Evaluation and calibration of photosynthesis model in crop-climate coupled simulations. *The 13th Annual Graduate Research Symposium*, St. Louis University, Mar. 2007.

2006

Xue, L., and Z. Pan, 2006: Evaluation and Calibration of Photosynthesis Model in Crop-climate Coupled Simulation. *Vegetation-Atmosphere Feedback in Regional Climate, AGU 2006 Fall Meeting*, San Francisco, CA, Dec. 2006.

Pan, Z., L. Xue, E. S. Takle, and M. Segal, 2006: Sensitivity of Carbon Budgets in the Continental U.S. to Soil Moisture in a Regional Ecosystem-Climate Coupled Model, *Regional to Continental-Scale Carbon Cycle Science, AGU 2006 Fall Meeting*, San Francisco, CA, Dec. 2006.

Xue, L. X. Li, X.B. Yang, D. Andrade, and Z. Pan, 2006: Soybean Rust Prediction and Analysis in the United States for the 2006 Growing Season, *The 2nd National Soybean Rust Symposium*, St. Louis, MO, Nov. 2006.

Pan, Z.: X.B. Yang, L. Xue, and X. Li., 2006: Forecasting the spread of soybean rust using a nested climate model, *The 2nd National Soybean Rust Symposium*, St. Louis, MO, Nov.

2006.

Andrade, D., Z. Pan, W. Dannevik, and L. Xue, 2006: Forecasting spore escape rates from a soybean canopy using turbulent statistics and a simplified Lagrangian model. *The 2nd Annual National Soybean Rust Symposium*, St. Louis, MO, Nov. 2006.

2005

Pan, Z., X.B. Yang, E. Del Ponte, L. Xue, and X. Li, 2005: Soybean rust dispersal prediction and analyses in the US for 2005 growing season, *National Soybean Rust Symposium*, Nashville, TN, Nov. 2005.

Takle, E.S., Z. Pan, L. Xue, and M. Segal, 2005: Improving surface water and energy fluxes in a regional climate model by use of fully interactive biophysical crop modeling, *5th International Scientific Conference on the Global Energy and Water Cycle*, Orange County, CA, Jun. 2005.

Pan, Z., E. Takle, L. Xue, and M. Segal, 2005: Improvements on CO₂ flux estimation over the central U.S. using explicit crop phenology in a regional climate model. Preprint: *16th Conference on Climate Variability and Change*, San Diego, CA, Jan. 2005.

Xue, L. and Z. Pan, 2005: Sensitivity of carbon flux to maximum carboxylation in a coupled regional model, *Missouri Academy of Science annual meeting*, Jefferson, MO, Apr. 2005.

Pan, Z., R. Pasken, L. Xue, and X.B Yang, 2005: Long-term prediction of soybean rust entry to the continental United States, *Missouri Academy of Science annual meeting*, 2005.

2004

Pan, Z., E. S. Takle, L. Xue, and M. Segal, 2004: Crop phenology feedback to climate over the central US in a regional climate model. *Climate Feedback and Climate Dynamics, AGU Fall Meeting*, San Francisco, CA, Dec. 2004.