# LULIN XUE

## CURRICULUM VITAE

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Contents: Edu/Exp/Pro assoc/Papers/Patents/Invited talks/Services/Conf abs

## EDUCATION

**SEPTEMBER 2009**
**Ph.D. in Meteorology** Saint Louis University

**MAY 2006**
**M.S. in Meteorology** Saint Louis University

**JUNE 2002**
**B.S. in Atmospheric Physics** University of Science and Technology in China

## EXPERIENCE

**JUNE 2016 – PRESENT**
**Project Scientist II** Research Applications Laboratory (RAL), the National Center For Atmospheric Research (NCAR)

**MAY 2012 – MAY 2016**
**Project Scientist I** RAL, NCAR

**OCTOBER 2009 – APRIL 2012**
**Advanced Study Program (ASP) Postdoctoral Fellow** ASP and RAL, NCAR

**MARCH 2008 – SEPTEMBER 2009**
**Teaching Assistant** Department of Earth and Atmospheric Science, Saint Louis University

**SEPTEMBER 2007 – FEBRUARY 2008**
**ASP visiting graduate student** ASP and the Institute for Integrative & Multidisciplinary Earth Studies, NCAR

**MAY 2004 – FEBRUARY 2008**
**Research Assistant** Department of Earth and Atmospheric Science, Saint Louis University

## PROFESSIONAL ASSOCIATIONS

**JANUARY 2006 – PRESENT** **Member of American Meteorology Society**

**JANUARY 2006 – PRESENT** **Member of American Geophysical Union**

**JANUARY 2006 – SEPTEMBER 2009** **Member of AMS local chapter at Saint Louis University**

## PEER-REVIEWED PUBLICATIONS (* as the corresponding author)

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ **Papers in review** ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

1. Gopalakrishnan, D., S. Taraphdar, O.M. Pauluis, **L. Xue**, R.S. Ajayamohan, N. Al Shamsi S. Chen, J.A. Lee, W.W. Grabowski, C. Liu, S.A. Tessendorf, and R. Rasmussen, 2022: Anatomy of a summertime convective event over the Arabian region. *Mon. Weather Rev*., in review.
2. Chen, J., **L. Xue**, S. Fu, X. Liu, and L. Deng, 2022: Impacts of the maritime-continental thermal contrasts on the evolution of a squall line case. *Atmos. Res.,* in review.
3. Jiang, Q., C. Madramootoo, Z. Qi, **L. Xue**, and M.S. Bukovsky, 2022: Potential Contribution of Water Management Practices under Intensive Crop Production to Climate-Change-Associated Global Warming. *Global Change Biology*, in review.
4. Zaremba, T. J., R. M. Rauber, S. Haimov, B. Geerts, J. R. French, C. Grasmick, K. Heimes, S. A. Tessendorf, K. Friedrich, **L. Xue**, R. M. Rasmussen, M. L. Kunkel, and D. R. Blestrud, 2022: Vertical Motions in Orographic Cloud Systems over the Payette River Basin. Part 1: Recovery of Vertical Motions and their Uncertainty from Airborne Doppler Radial Velocity Measurements. *J. Appl. Meteor. Climatol.,* in review.
5. Zaremba, T. J., K. Heimes, R. M. Rauber, B. Geerts, J. R. French, C. Grasmick, S. A. Tessendorf, **L. Xue**, K. Friedrich, R. M. Rasmussen, M. L. Kunkel, and D. R. Blestrud, 2022: Vertical Motions in Orographic Cloud Systems over the Payette River Basin. Part 2: Fixed and Transient Updrafts and their Relationship to Forcing. *J. Appl. Meteor. Climatol.,* in review.
6. Heimes, K., T. J. Zaremba, R. M. Rauber, S. A. Tessendorf, **L. Xue**, K. Ideka, B. Geerts, J. R. French, K. Friedrich, R. M. Rasmussen, M. L. Kunkel, and D. R. Blestrud, 2022: An Evaluation of the Impact of Transient Updrafts on Targeting During Orographic Cloud Seeding Operations. *J. Appl. Meteor. Climatol.,* in review.
7. Sarkadi, N., **L. Xue***, I. Geresdi, W.W. Grabowski, Z.J. Lebo, H. Morrison, B. White, J. Fan, and J. Dudhia, 2022: Microphysical piggybacking in the Weather Research and Forecasting Model. *J. Adv. Model. Earth Sy.*, in review.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ **Published papers** ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

1. Munoz-Esparza, D., J. Sauer, A. Jensen, **L. Xue**, and W. W. Grabowski, 2022: Moist dynamics and microphysics within the FastEddy(R) large-eddy simulation model, *J. Adv. Model. Earth Sy.*, http://doi.org/10.1029/2021MS002904.
2. Chu, Y., Z. Wang, **L. Xue**, M. Deng, G. Lin, H. Xie, H.H. Shin, W. Li, G. Firl, D. D'Amico, D. Liu, and Y. Wang, 2022: Characterizing Warm Atmospheric Boundary Layer Over Land by Combining Raman and Doppler Lidar Measurements. *Optics Express*, https://doi.org/10.1364/OE.451728.
3. **Xue, L.***, S. Bera, S. Chen, H. Choudhary, S. Dixit, W. W. Grabowski, S. Jayakumar, S. Krueger, G. Kulkarni, S. Lasher-Trapp, H. Mallinson, T. Prahakaran, and S. Shima, 2022: Progress and challenges in modeling dynamics-microphysics interactions: from the Pi chamber to Monsoon convection. *Bull. Amer. Meteor. Soc.*, https://doi.org/10.1175/BAMS-D-22-0018.1.
4. Geerts, B., S.E. Giangrande, G.M. McFarquhar, **L. Xue**, and others, 2022: The COMBLE campaign: a study of marine boundary-layer clouds in Arctic cold-air outbreaks. *Bull. Amer. Meteor. Soc.*, https://doi.org/10.1175/BAMS-D-21-0044.1.

5. Wang, Z., T.Q. Zhang, C.S. Tan, **L. Xue**, M. Bukovsky, and Z.M. Qi, 2022: Tillage and broadcast manure application effects on soil dissolved reactive phosphorous loss under climate change. *Nutr Cycl Agroecosyst,* DOI: 10.1007/s10705-022-10192-7.

6. **Xue, L.***, and others, 2022: Comparison between observed and simulated AgI seeding impacts in a well-observed case from the SNOWIE field program. *J. Appl. Meteor. Climatol.,* https://doi.org/10.1175/JAMC-D-21-0103.1.

7. Liu, X., **L. Xue***, B. Chen, and Y. Zhang, 2021: Spatio-temporal variabilities of raindrop size distributions in Chongqing observed by a dense network of distrometers. *J. Geophys. Res.,* https://doi.org/10.1029/2021JD035172.

8. Geresdi, I., **L. Xue***, S. Chen, Y. Wehbe, R. Bruintjes, J.A. Lee, R.M. Rasmussen, W.W. Grabowski, N. Sarkadi, S.A. Tessendorf, 2021: Impact of hygroscopic seeding on the initiation of precipitation formation: results of a parcel model with novel hybrid microphysics approaches. *Atmos. Chem. Phys.,* https://doi.org/10.5194/acp-21-16143-2021.

9. Chen, S., **L. Xue**, and M.K Yao, 2021: Hygroscopic seeding effects of giant aerosol particles on the droplet size distribution simulated by Lagrangian particle-based direct numerical simulation. *Geophys. Res. Lett.*, https://doi.org/10.1029/2021GL094621.

10. Shin, H. H., **L. Xue**, W. Li, G. Firl, D. F. D'Amico, D. Muñoz-Esparza, M. B. Ek, Y. Chu, Z. Wang, W. I. Gustafson, and A. M. Vogelmann, 2021: Role of large-scale forcing in the development of shallow convective clouds revealed from LASSO large-eddy simulations. *J. Geophys. Res.*, 126, e2021JD035208. https://doi.org/10.1029/2021JD035208.

11. Wu, Y., J. Sun, Z. Ying, **L. Xue**, D. Chen, and W. Lin, 2021: Effects of local-scale orography and urban heat island on the initiation of a record-breaking rainfall event. *J. Geophys. Res.* DOI: 10.1029/2021JD034839.

12. Wehbe, Y., S.A. Tessendorf, C. Weeks, R. Bruintjes, **L. Xue**, R. Rasmussen, P. Lawson, S. Woods, and Marouane Temimi, 2021: Analysis of aerosol-cloud interactions and their implications for precipitation formation using aircraft observations over the United Arab Emirates. *Atmos. Chem. Phys.*, https://doi.org/10.5194/acp-21-12543-2021.

13. Gao, W., **L. Xue**, L. Liu, C. Lu, Y. Yun, W. Zhou, 2021: The fraction of warm rain in a pre-summer rainfall event over South China. *Atmos. Res.,* https://doi.org/10.1016/j.atmosres.2021.105792.

14. Mazzetti, T., B. Geerts, **L. Xue**, and S. Tessendorf, 2021: Historical and Future Potential for Ground-Based Orographic Glaciogenic Cloud Seeding in the Interior Western United States. *J. Appl. Meteor. Climatol.,* DOI: 10.1175/JAMC-D-20-0288.1.

15. Freiderich, K., J.R. French, S.A. Tessendorf, M. Hatt, C. Weeks, R.M. Rauber, B. Geerts, **L. Xue**, R.M. Rasmussen, D.R. Blestrud, M.L. Kunkel, N. Dawson, and S. Parkinson, 2021: Microphysical characteristics and evolution of seeded orographic clouds. *J. Appl. Meteor. Climatol.,* https://doi.org/10.1175/JAMC-D-20-0206.1.

16. Deng, Lin, Y. Zhao, W. Gao, **L. Xue**, and Y. Duan, 2021: Intensity and microphysical properties surrounding the rapid intensification in landfalling Super Typhoons over China during the summer and autumn seasons. *International Journal of Climatology*, DOI: 10.1002/joc.7200.

17. Taraphdar, S., O. Pauluis, **L. Xue**, C. Liu, R. S. Ajayamohan, R. M. Rasmussen, S. A. Tessendorf, X. Jing, S. Chen, and W. W. Grabowski, 2021: WRF gray zone simulations of precipitation over the

Middle East and UAE: Impacts of physics parameterizations and resolution. *J. Geophys. Res.*, https://doi.org/10.1029/2021JD034648.

18. Tessendorf, S.A., S. Chen, C. Weeks, R. Bruintjes. R. Rasmussen, and **L. Xue**, 2021: The influence of hygroscopic flare seeding on the droplet size distribution in southeast Queensland. *J. Geophys. Res.* DOI: 10.1029/2020JD033771.
19. Wang, Z., T.Q. Zhang, C.S. Tan, **L. Xue**, M. Bukovsky, and Z.M. Qi, 2021: Modeling impacts of climate change on crop yield and phosphorus loss in a subsurface drained field of Lake Erie region. *Agricultural Systems,* DOI: 10.1016/j.agsy.2021.103110
20. Newman, A.J., A.J. Monaghan, M.P. Clark, K. Ikeda, **L. Xue**, E. Gutmann, and J.R. Arnold, 2021: Mesoscale water cycle changes in Alaska portrayed by a high-resolution regional climate simulation. *Climatic Change,* https://doi.org/10.1007/s10584-021-02956-x.
21. **Xue, L.***, Y. Wang, A.J. Newman, K. Ikeda, R.M. Rasmussen, T.W. Giambelluca, R.J. Longman, A.J. Monaghan, M.P. Clark, and J.R. Arnold, 2020: How will rainfall change over Hawai'i in the future? High resolution regional climate simulation of the Hawaiian Islands. *Bulletin of Atmospheric Science and Technology*, doi:10.1007/s42865-020-00022-5.
22. Francis, D., N. Alshamsi, N. Nelli, J. Cuesta, J-P. Chaboureau, M. Temimi, O. Pauluis, and **L. Xue**, 2020: Summertime dust storms over the Arabian Peninsula and impacts on radiation, circulation, cloud development and rain. *Atmospheric Research*, DOI: 10.1016/j.atmosres.2020.105364.
23. Xu, L., **L. Xue***, and I. Geresdi, 2020: How does the melting impact charge separation in squall line? A bin microphysics simulation study. *Geophys. Res. Lett.*, https://doi.org/10.1029/2020GL090840.
24. Jiang, Q., Z. Qi, F. Tang, **L. Xue**, and M. Bukovsky, 2020: Modeling climate change impact on streamflow as affected by snowmelt in Nicolet River Watershed, Quebec. *Computers and Electronics in Agriculture*, https://doi.org/10.1016/j.compag.2020.105756.
25. Geresdi, I., **L. Xue**, N. Sarkadi, R. Rasmussen, 2020: Evaluation of Orographic Cloud Seeding Using Bin Microphysics Scheme. Three –dimensional simulation of real cases. *J. Appl. Meteor. Climatol.,* 59 (9): 1537–1555. https://doi.org/10.1175/JAMC-D-19-0278.1.
26. Chen, S., **L. Xue**, M.K. Yau, 2020: Impact of aerosols and turbulence on cloud droplet growth: an in-cloud seeding case study using a parcel–DNS (direct numerical simulation) approach. *Atmos. Chem. Phys.*, 20, 10111–10124, 2020 https://doi.org/10.5194/acp-20-10111-2020.
27. Jing, X., **L. Xue***, Y. Yin, D. Steinhoff, A. Monaghan, D. Yates, J. Yang, C. Liu, R. Rasmussen, S. Taraphdar, and O. Pauluis, 2020: Convection-permitting regional climate simulations in the Arabian Gulf Region using WRF driven by bias-corrected GCM data. *Journal of Climate*, https://doi.org/10.1175/JCLI-D-20-0155.1.
28. Tessendorf, S.A., K. Ikeda, C. Weeks, R. Rasmussen, J. Wolff, and **L. Xue**, 2020: An assessment of winter orographic precipitation and cloud-seeding potential in Wyoming. *J. Appl. Meteor. Climatol.,* https://doi.org/10.1175/JAMC-D-19-0219.1.
29. Morrison, H., M. van Lier-Walqui, A.M. Fridlind, W.W. Grabowski, J.Y. Harrington, C. Hoose, A. Korolev, M.R. Kumjian, J.A. Milbrandt, H. Pawlowska, D.J. Posselt, O.P. Prat, K.J. Reimel, S. Shima, B. van Diedenhoven, and **L. Xue**, 2020: Confronting the challenge of modeling cloud and precipitation microphysics. *J. Adv. Model. Earth Sy.*, https://doi.org/10.1029/2019MS001689.

30. Shaw, R.A., W. Cantrell, S. Chen, P. Chuang, N. Donahue, G. Feingold, P. Kollias, S. Krueger, A. Korolev, S. Kreidenweis, J.P. Mellado, D. Niedermeier, and **L. Xue**, 2020: Cloud-aerosol-turbulence interactions: Science priorities and concepts for a large-scale laboratory facility. *Bull. Amer. Meteor. Soc.*, https://doi.org/10.1175/BAMS-D-20-0009.1.

31. Huang, J., Y. Wang, **L. Xue**, L. Zhang, H. Li, 2020: Comparison of Three Microphysics Parameterization Schemes in the WRF Model for an Extreme Rainfall Event in the Coastal Metropolitan City of Guangzhou, China. *Atmos. Res.,* https://doi.org/10.1016/j.atmosres.2020.104939.

32. Friedrich, K., K. Ikeda, S.A. Tessendorf, J. French, R.M. Robert, B. Geerts, **L. Xue**, R.M. Rasmussen, D.R. Blestrud, M.L. Kunkel, N. Dawson, and S. Parkinson, 2020: Making snow - Quantifying snowfall from orographic cloud seeding. *Proc. Natl. Acad. Sci.* https://www.pnas.org/content/early/2020/02/19/1917204117.

33. Jiang, Q., Z. Qi, **L. Xue**, M. Bukovski, C.A. Madramootoo, and W. Smith, 2020: Assessing climate change impacts on greenhouse gas emissions, water quality and crop production in subsurface drained field. *Science of the Total Environment*, https://doi.org/10.1016/j.scitotenv.2019.135969

34. Chen, Q., Y. Yin, H. Jiang, Z. Chu, **L. Xue**, R. Shi, X. Zhang, and J. Chen, 2019: The Roles of Mineral Dust as Cloud Condensation Nuclei and Ice Nuclei During the Evolution of a Hail Storm. *J. Geophys. Res.*, https://doi.org/10.1029/2019JD031403.

35. Lee, J.A., P. Doubrawa, **L. Xue***, A.J. Newman, C. Draxl, and G. Scott, 2019: Wind Resource Assessment for Alaska's O shore Regions: Validation of a 14-Year High-Resolution WRF Data Set. Energies, **12(14)**, 2780; https://doi.org/10.3390/en12142780.

36. Rauber, R.M., B. Geerts, **L. Xue**, J. French, K. Friedrich, R.M. Rasmussen, S.A. Tessendorf, D.R. Blestrud, M.L. Kunkel, and S. Parkinson, 2019: Wintertime Orographic Cloud Seeding-A Review. *J. Appl. Meteor. Climatol.,* https://doi.org/10.1175/JAMC-D-18-0341.1.

37. Tessendorf, S. A., J. R. French, K. Friedrich, B. Geerts, R. M. Rauber, R. M. Rasmussen, **L. Xue**, K. Ikeda, D. R. Blestrud, M. L. Kunkel, S. Parkinson, J. R. Snider, J. Aikins, S. Faber, A. Majewski, C. Grasmick, A. Janiszeski, A. Springer, C. Weeks, D. J. Serke, and R. Bruintjes, 2019： A transformational approach to winter orographic weather modification research: The SNOWIE Project. *Bull. Amer. Meteor. Soc.*, **100 (1)**, 71-92.

38. Rasmussen, R. R., S. A. Tessendorf, **L. Xue**, C. Weeks, K. Ikeda, S. Landolt, D. Breed, T. Deshler, B. Lawrence, 2018: Evaluation of the Wyoming Weather Modification Pilot Project using two approaches: Traditional Statistics and Ensemble Modeling. *J. Appl. Meteor. Climatol.,* 57 (11), 2639-2660.

39. **Xue, L.***, B. Geerts, X. Guo, I. Geresdi, and S. Siems, 2018: Experimental, Observational, and Numerical Research on Intentional and Inadvertent Weather Modification. *Advances in Meteorology*, https://doi.org/10.1155/2018/1613756.

40. Chen, S., M. K. Yau, P. Bartello, **L. Xue**, 2018: Bridging the condensation-collision size gap: a direct numerical simulation of continuous droplet growth in turbulent cloud. *Atmos. Chem. Phys.*, **18**, 7251 - 7262.

41. Monaghan, A., A. Newman, M. Clark, **L. Xue** and R. Rasmussen, 2018: High-resolution WRF regional climate simulation of Alaska: Properties of extreme precipitation events. *J. Appl. Meteor. Climatol.,* **57**, 709 - 731.

42. Chu, X., **L. Xue**, B. Geerts and B. Kosovic, 2018: The Impact of Boundary Layer Turbulence on Snow Growth and Precipitation: Idealized Large Eddy Simulations. *Atmos. Res.*, **204**, 54 - 66.

43. French J. R., K. Friedrich, S. A. Tessendorf, R. M. Rauber, B. Geerts, R. M. Rasmussen, **L. Xue**, M. L. Kunkel, D. R. Blestrud, 2018: Precipitation formation from orographic cloud seeding. *Proc. Natl. Acad. Sci.*, https://doi.org/10.1073/pnas.1716995115

44. **Xue, L.*,** J. Fan, Z. Lebo, W. Wu, H. Morrison, W. W. Grabowski, X. Chu, I. Geresdi, X. Lou, K. North, R. Stenz, Y. Gao, A. Bansemer, A. Heymsfield, G. McFarquhar and R. Rasmussen, 2017: Idealized Simulations of a Squall Line from the MC3E Field Campaign Applying Three Bin Microphysics Schemes: Dynamic and Thermodynamic Structure. *Mon. Weather Rev*., **145**, 4789 - 4812.

45. Keeler, J. M., B. F. Jewett, R. M. Rauber, G. M. McFarquhar, R. M. Rasmussen, **L. Xue**, C. Liu, and G. Thompson, 2017: Dynamics of cloud-top generating cells in winter cyclones. Part III: Shear and convective organization. *J. Atmos. Sci.*, **74**, 2879 - 2897.

46. **Xue, L.***, R. Edwards, A. Huggins, X. Lou, R. Rasmussen, S. A. Tessendorf, P. Holbrook, D. Blestrud, M. Kunkel, B. Glenn and S. Parkinson, 2017: WRF Large-Eddy simulations of chemical tracer deposition and seeding effect over complex terrain from ground- and aircraft-based AgI generators. *Atmos. Res.,* **190**, 89 - 103.

47. Lebo, Z., B. Shipway, J. Fan, I. Geresdi, A. Hill, A. Miltenberger, H. Morrison, P. Rosenberg, A. Varble, and **L. Xue**, 2017: Ninth International Cloud Modeling Workshop. *Bull. Amer. Meteor. Soc.*, **98**, 1749 - 1755.

48. Geresdi, I., **L. Xue***, R. Rasmussen, 2017: Evaluation of Orographic Cloud Seeding Using Bin Microphysics Scheme: Two-dimensional approach. *J. Appl. Meteor. Climatol.,* **56**, 1443 - 1462.

49. Chu, X., B. Geerts, **L. Xue**, B. Pokharel, 2017: A case study of cloud radar observations and Large Eddy Simulations of a shallow stratiform orographic cloud, and the impact of glaciogenic seeding. *J. Appl. Meteor. Climatol.,* **56**, 1285 - 1304.

50. Chu, X., B. Geerts, **L. Xue**, R. Rasmussen, 2017: Large Eddy Simulations of the impact of ground-based glaciogenic seeding on shallow orographic convection: a case study. *J. Appl. Meteor. Climatol.,* **56**, 69–84, doi: 10.1175/JAMC-D-16-0191.1.

51. Wang, Z., Z. Qi, **L. Xue**, M. Bukovsky, 2016: RZWQM2 simulated management practices to mitigate climate change impacts on nitrogen losses and corn production. *Environmental Modeling and Software*, **84**, 99 - 111.

52. Keeler, J. M., B. F. Jewett, R. M. Rauber, G. M. McFarquhar, R. M. Rasmussen, **L. Xue**, C. Liu, and G. Thompson, 2016: Dynamics of cloud-top generating cells in winter cyclones. Part I: Idealized simulations in the context of field observations. *J. Atmos. Sci.*, **73**, 1507–1527.

53. Keeler, J. M., B. F. Jewett, R. M. Rauber, G. M. McFarquhar, R. M. Rasmussen, **L. Xue**, C. Liu, and G. Thompson, 2016: Dynamics of cloud-top generating cells in winter cyclones. Part II: Radiative and instability forcing. *J. Atmos. Sci.*, **73**, 1529–1553.

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58. **Xue, L.***, X. Chu, R. Rasmussen, D. Breed, B. Boe and B. Geerts, 2014: The dispersion of silver iodide particles from ground-based generators over complex terrain. Part 2: WRF Large-Eddy simulations vs. Observations. *J. Appl. Meteor. Climatol.,* 53, 1342-1361.

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61. **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.

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71. 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.

72. **Xue, L.*** and Z. Pan, 2008: Ensemble calibration and sensitivity study of a surface $CO_2$ flux scheme using an optimization algorithm. *J. Geophys. Res.*, **113**, D10109.

73. 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.

## PATENTS

1. **Xue, L.**, R.M. Rasmussen, and S.A. Tessendorf, 2021: Method and system for determining cloud seeding potential. US Patent App. 16/250,807, 2020, US20200233115A1.

## INVITED SEMINAR AND TALK

**NOVEMBER 2021**
**1st International Association of Meteorological Education and Sciences conference** The COMBLE campaign: a study of marine boundary-layer clouds in Arctic cold-air outbreaks. Virtual.

**OCTOBER 2021**
**University of North Dakota** Recent Breakthroughs in Cloud Seeding Research – the SNOWIE project. Grand Forks, ND.

**JANUARY 2021**
**5th International Rain Enhancement Forum** Aerosol, Cloud, Precipitation, and Rain Enhancement in the Gulf – An Overview of the UAE-NATURE Research. Virtual.

**JANUARY 2021**
**101st AMS annual meeting** Quantifying the Impacts of Cloud Seeding Using WRF-WxMod Ensemble Simulations and SNOWIE Observations. Virtual.

**JANUARY 2020**
**4th International Rain Enhancement Forum** DNS simulations of aerosol-cloud interaction in hygroscopic seeding scenario. Abu Dhabi, UAE.

**JANUARY 2020**

**3rd Ice Nucleation Conference** Overview of the research on glaciogenic seeding of wintertime orographic clouds. Boston, MA.

**OCTOBER 2019**
**Peking University** An Overview of the SNOWIE Field Campaign. Beijing, China.

**AUGUST 2019**
**University of Oklahoma** UAE-NATURE overview. Norman, OK.

**JULY 2019**
**Chongqing Meteorological Services** GPU Accelerated Large Eddy Simulation with FastEddy™ Chongqing, China.

**JUNE 2019**
**Beijing Aircraft In-situ Measurement International Workshop** An Overview of the SNOWIE Field Campaign. Beijing, China.

**APRIL 2019**
**Workshop on Eulerian vs. Lagrangian methods for cloud microphysics** International Cloud Modeling Workshop 2020. Cracow, Poland.

**JANUARY 2019**
**3rd International Rain Enhancement Forum** UAE-NATURE ins and outs in year 0.5. Abu Dhabi, UAE.

**JANUARY 2019**
**New York University Abu Dhabi** Climate Change Studies over the US based on High Resolution WRF Model Simulations. Abu Dhabi, UAE.

**NOVEMBER 2018**
**University of Hohenheim** Modeling System for Glaciogenic Cloud Seeding. Stuttgart, Germany.

**NOVEMBER 2018**
**University of Pecs** Modeling System for Glaciogenic Cloud Seeding. Pecs, Hungary.

**OCTOBER 2018**
**McGill University** How does the rainfall change over Hawaii in the future? High resolution regional climate simulation of the Hawaiian islands. Montreal, Canada.

**NOVEMBER 2017**
**10th International Workshop on Cloud Physics and Aerosol** Understanding warm rain initiation: Impact of small-scale turbulence on the droplet size spectrum broadening simulated by Direct Numerical Simulation (DNS). Virtual.

**OCTOBER 2017**
**Institute of Atmospheric Physics** Understanding warm rain initiation: Impact of small-scale turbulence on the droplet size spectrum broadening simulated by Direct Numerical Simulation (DNS). Beijing, China.

**JUNE 2017**

**National Marine Environmental Forecasting Center** Hawaii regional climate simulation – preliminary results. Beijing, China.

**JUNE 2017**
**Institute of Urban Meteorology** Evaluation of the impacts of turbulence and overturning cells on mixed-phase clouds using idealized Large Eddy Simulations. Beijing, China.

**JUNE 2017**
**Chinese Academy of Meteorological Sciences** World Meteorological Organization (WMO) Solid Precipitation Inter-comparison Experiment (SPICE). Beijing, China.

**JUNE 2017**
**5th Workshop for Beijing Field Study of Urban-Impact on Rainfall and Fog/Haze** Summary of the 1st Beijing International Symposium on Cloud Physics & Weather Modification. Beijing, China.

**JUNE 2017**
**1st Beijing International Symposium on Cloud Physics & Weather Modification** WRF Cloud Seeding System. Beijing, China.

**APRIL 2017**
**Weather Modification Association annual meeting** WRF Cloud Seeding Module: Development and Implementation. Boise, ID.

**DECEMBER 2016**
**Nanjing University of Information Science and Technology** Hawaii regional climate simulation – preliminary results. Nanjing, China.

**DECEMBER 2016**
**Lanzhou University** Turbulent impact on snow growth in orographic clouds. Lanzhou, China.

**DECEMBER 2016**
**Lanzhou University** AgI dispersion simulated by WRF LES, PBL schemes and inline WRF-HYSPLIT. Lanzhou, China.

**DECEMBER 2016**
**Qinghai Weather Modification Office** On the numerical simulations of wintertime orographic cloud seeding. Qinghai, China.

**DECEMBER 2016**
**Beijing Weather Modification Office** SNOWIE Field Program: Seeded and Natural Orographic Wintertime clouds: the Idaho Experiment. Beijing, China.

**DECEMBER 2016**
**Beijing Weather Modification Office** Observations and simulations of a Pre-SNOWIE case on February 12, 2014. Beijing, China.

**JUNE 2016**

**9th International Workshop on Cloud Physics and Aerosol** Comparison of Snow Ag Concentration in Payette Basin between Observations and Model Simulations on Feb. 18 2016. Daegu, South Korea.

**JUNE 2016**
**9th International Workshop on Cloud Physics and Aerosol** AgI Targeting Assessment Using Snowpack Trace Chemistry: Method Development and Results Summary. Daegu, South Korea.

**DECEMBER 2015**
**Saint Louis University** On the numerical simulations of wintertime orographic cloud seeding. Saint Louis, MO.

**APRIL 2015**
**University of Illinois** Glaciogenic seeding of wintertime orographic clouds: A numerical simulation perspective. Champaign, IL.

**OCTOBER 2014**
**University of Wyoming** Glaciogenic seeding of wintertime orographic clouds: A numerical simulation perspective. Laramie, WY.

**SEPTEMBER 2014**
**Nanjing University of Information Science and Technology** Applications of bin microphysics scheme in squall line, orographic cloud and AgI seedig simulations. Nanjing, China.

**SEPTEMBER 2014**
**Chinese Academy of Meteorological Sciences** Glaciogenic seeding of wintertime orographic clouds: A numerical simulation perspective. Beijing, China.

## SERVICE AND LEADERSHIP

**AUGUST 2021 - PRESENT**
**Chair and organizer of the "11th International Cloud Modeling Workshop"**

**MAY 2021**
**Panel reviewer for the UAE Research Program for Rain Enhancement Science proposals**

**APRIL 2021**
**Panel reviewer for the Department of Energy Atmospheric System Research proposals**

**OCTOBER 2019 – NOVEMBER 2019**
**Co-organizer of the "Workshop to Explore Science Opportunities and Concepts for a Large-Scale Aerosol-Cloud-Turbulence Research Facility"**

**APRIL 2019 – JUNE 2019**
**Co-organizer of the "Beijing Aircraft In-situ Measurement International Workshop"**

**FEBRUARY 2019 – APRIL 2019**

**Co-convener of the "The Nexus between Weather Modification and Limited-Area Geoengineering" session at EGU 2019 general assembly**

OCTOBER 2018 – SEPTEMBER 2021
**Chair and organizer of the "Workshop on laboratory facilities for cloud research"**

SEPTEMBER 2018 – SEPTEMBER 2020
**Co-chair of the RAL Social Activity Committee**

SEPTEMBER 2018 – SEPTEMBER 2020
**RAL Representative Council member**

JULY 2018 – AUGUST 2021
**Chair and organizer of the "10th International Cloud Modeling Workshop"**

JULY 2018
**Chair of three sessions at AMS Conference on Cloud Physics in Vancouver**

JANUARY 2018
**Chair of one session at AMS Annual Conference**

APRIL 2017 – APRIL 2018
**Reviewer for RAL opportunity fund proposals**

APRIL 2017 – JUNE 2017
**Chair and co-organizer of the "1st Beijing International Symposium on Cloud Physics & Weather Modification"**

MARCH 2017 – JANUARY 2019
**Associate editor for Journal of Applied Meteorology and Climatology**

JANUARY 2017 – DECEMBER 2017
**Lead guest editor of a special issue in the journal of Advances in Meteorology**

DECEMBER 2016 – PRESENT
**ASP postdoc selection committee member in RAL**

APRIL 2016 – APRIL 2018
**RAL representative of Early Career Scientist Assembly at NCAR**

MARCH 2016 – PRESENT
**Member of the advisory panel for the Beijing Key laboratory of cloud, precipitation and atmospheric water resources**

OCTOBER 2015 – PRESENT
**Reviewer for NSF proposals**

JUNE 2015 – PRESENT
**Board member of the Chinese-America Oceanic and Atmospheric Association – Colorado Chapter**

SEPTEMBER 2013 – JUNE 2016

**Co-organizer of the "9th International Cloud Modeling Workshop"**

**SEPTEMBER 2011 – PRESENT**

**Dissertation committee member for Master and Ph.D. students**

**OCTOBER 2009 – PRESENT**

**Reviewer for more than 20 top-rated journals**

**OCTOBER 2009 – OCTOBER 2011**

**ASP representative of Early Career Scientist Assembly at NCAR**

**OCTOBER 2009 – OCTOBER 2011**

**ASP Thompson Lecture committee member**

**OCTOBER 2009 – OCTOBER 2011**

**ASP research review committee member**

## CONFERENCE ABSTRACTS: (STOP UNDATING AFTER 2019)

**2019**

Xue L., 2019: International Cloud Modeling Workshop 2020. Workshop on Eulerian vs. Lagrangian methods for cloud microphysics. Cracow, Poland

Xue L., Ping Tian, Mengyu Huang, Hui He, Xiaoqin Jing, Qian Chen, Chunsong Lu, Yan Yin, Istvan Geresdi, Noemi Sarkadi, Olivier Pauluis, Ajaya Ravindran, Sourav Taraphdar, Roy Rasmussen, Wojciech Grabowski, Sarah Tessendorf, Changhai Liu, and Sisi Chen, 2019: Using Advanced Experimental - Numerical Approaches To Untangle Rain Enhancement (UAE-NATURE). EGU general assembly, Vienna, Austria

Xue L., N. Sarkadi, R. M. Rasmussen, S. A. Tessendorf, W. W. Grabowski, and I. Geresdi, 2019: Separating Microphysical Impacts from Dynamic Feedbacks in a Winter Orographic Seeding Case from SNOWIE. AMS annual meeting 2019, Phoenix, AZ

**2018**

Xue L., Yaping Wang, Andrew James Newman, Kyoko Ikeda, Roy Rasmussen, Thomas W Giambelluca, Ryan J Longman, Andrew Monaghan, Martyn P Clark and Jeffrey Richard Arnold, 2018: How does the rainfall change over Hawaii in the future? High resolution regional climate simulation of the Hawaiian Islands. AGU 2018 fall meeting, Washington D.C.

Xue L., W. Wu, R. M. Rasmussen, S. A. Tessendorf, J. R. French, K. Friedrich, B. Geerts, R. M. Rauber, D. Blestrud, M. L. Kunkel, N. Dawson, and S. Parkinson, 2018: Sensitivity Simulations of Ice Production in a Super-Cooled Orographic Cloud during the SNOWIE Field Campaign. 15th Conference on Cloud Physics, Vancouver, Canada

Xue, L., R. Rasmussen, S. Tessendorf, C. Weeks, K. Ikeda, D. Breed, S. Landolt, Q. Gao, and X. Liu, 2018: New Insight on WWMPP RSE Results Using an Ensemble Modeling Approach. Wyoming Technical Advisory Team meeting, Cheyenne, WY.

Xue, L., and R. Rasmussen, 2018: Design of the ensemble seeding simulations for the Randomized Seeding Experiments of the Wyoming Weather Modification Pilot Project. AMS annual meeting 2018, Austin, TX

Xue, L., W. Wu, R. Rasmussen, S. Tessendorf, J. French, K. Friedrich, B. Geerts, R. Rauber, D. Blestrud, M. Kunkel, and S. Parkinson, 2018: Simulation of an airborne cloud seeding event during the SNOWIE field campaign. AMS annual meeting 2018, Austin, TX

**2017**

Xue, L., B. Notaros, A. Newman, G.-J. Huang, and V. N. Bringi, 2017: Validation of Bin Microphysics in Large Eddy Simulations for the 30 January 2012 Lake Effect snow case during GCPEx. AGU 2017 fall meeting, New Orleans, LA

Xue, L., S. Tessendorf, R. Rasmussen, P. Holbrook, D. Blestrud, M. Kunkel, and S. Parkinson, 2017: WRF simulated and observed Ag deposition comparison in downwind area of the Payette basin. WMA annual meeting, Boise, ID

Xue, L., J. Fisher, S. Benner, M. Kunkel, D. Blestrud, B. Glenn, S. Tessendorf, R. Rasmussen, and S. Parkinson, 2017: Summary of the performance of the NCAR Wintertime AgI Seeding Case-calling Algorithm (WASCA): 2012 to 2017. WMA annual meeting, Boise, ID

**2016**

Xue, L., Z. Lebo, J. Fan, W. Wu, I. Geresdi, A. Bansemer, X. Chu, H. Morrison, R. Rasmussen, W. Grabowski, A. Heymsfield, G. McFarquhar, 2016: Simulations of a squall line case from MC3E applying three different bin microphysics schemes. 17th International Conference on Cloud and Precipitation, Manchester, UK

Xue, L., I. Geresdi, R. Rasmussen, S. Tessendorf, C. Weeks, J. French, B. Geerts, P. Holbrook, D. Blestrud, M. Kunkel, S. Parkinson, 2016: Simulation of an orographic cloud airborne seeding case using a bin microphysics scheme. 17th International Conference on Cloud and Precipitation, Manchester, UK

Xue, L., R. Rasmussen, K. Ikeda, M. Clark, 2016: Sensitivity of precipitation to clouds over upwind ocean in the Hawaii Island. 17th International Conference on Cloud and Precipitation, Manchester, UK

Wang, Y., L. Xue, B. Geerts, 2016: Mixed-phase Convective Clouds in the High-latitude Boundary Layer over Water: evaluation of convection parameterizations with LES simulations and observations. 17th International Conference on Cloud and Precipitation, Manchester, UK

Geresdi, I., L. Xue, R. Rasmussen, N. Sarkadi, 2016: 3D numerical simulation of orographic cloud seeding using a bin microphysics scheme. 17th International Conference on Cloud and Precipitation, Manchester, UK

Geerts, B., X. Chu, L. Xue, 2016: Large Eddy Simulations of the impact of shear-driven turbulence on snow growth. 17th International Conference on Cloud and Precipitation, Manchester, UK

Wu, W., G. McFarquhar, L. Xue, H. Morrison, W. Grabowski, 2016: The effectiveness of spectral bin schemes in simulating ice cloud particle size distributions and their variability. 17th International Conference on Cloud and Precipitation, Manchester, UK

Tessendorf, S., J. French, C. Weeks, R. Rasmussen, B. Geerts, B. Pokharel, L. Xue, P. Holbrook, D. Blestrud, M. Kunkel, S. Parkinson, 2016: The evolution and precipitation production of an orographic wintertime cloud with freezing drizzle. 17th International Conference on Cloud and Precipitation, Manchester, UK

French, J., S. Tessendorf, D. Jacobson, R. Rasmussen, B. Geerts, B. Pokharel, L. Xue, P. Holbrook, M. Kunkel, D. Blestrud, S. Parkinson, 2016: A detailed examination of the microphysical processes leading to ice production within an orographic wintertime cloud with freezing drizzle. 17th International Conference on Cloud and Precipitation, Manchester, UK

Xue, L., J. Fisher, R. Edwards, S. Benner, S. Tessendorf, R. Rasmussen, M. Kunkel, D. Blestrud, P. Holbrook, and S. Parkinson, 2016: Comparison of Snow Ag Concentration in Payette Basin between Observations and Model Simulations on Feb. 18 2016. WMA annual meeting 2016, Long Beach, CA

**2015**

Xue, L., B. Kosovic, H. Shin, J. Dudhia, S. Tessendorf, R. Rasmussen, P. Holbrook, D. Blestrud, M. Kunkel, S. Parkinson, 2015: Dispersion of particles in complex terrain: comparisons between WRF LES and simulations using different PBL schemes. AGU 2015 Fall Meeting, San Francisco, CA

Tessendorf, S, L. Xue, C. Weeks, R. Rasmussen, J. French, B. Geerts, P. Holbrook, D. Blestrud, M. Kunkel, S. Parkinson, 2015: Case Studies of Mixed-phase Winter Orographic Clouds with High Liquid Water Content over Idaho. AGU 2015 Fall Meeting, San Francisco, CA

Ikeda, K., S. Tessendorf, C. Weeks, R. Rasmussen, D. Axisa, L. Xue, 2015: Characteristics of Wintertime Precipitation in Two Western Wyoming Mountainous Regions. AGU Fall Meeting, San Francisco, CA

Xue, L. et al., Can Wintertime Orographic Clouds Be over Seeded by AgI? AMS annual meeting, Phoenix, AZ, Jan. 6th, 2015.

Xue, L. et al., What Does the Model Tell Us about the Seeding Effect: Results of WRF Simulations of WWMPP Seeding Cases in 3 Seasons. AMS annual meeting, Phoenix, AZ, Jan. 7th, 2015.

Xue, L. et al., AgI Dispersion and Seeding Impacts on a Wintertime Orographic Cloud Simulated by WRF LES. AMS annual meeting, Phoenix, AZ, Jan. 7th, 2015.

Xue, L. et al., A MC3E Squall line simulated by three bin microphysics schemes: comparisons between model results and observations. DOE ASR science meeting, Washington D.C., Mar. 17th. 2015.

**2014**

Xue, L. et al., Modeling orographic clouds and cloud seeding. RAL retreat, Boulder, CO, Dec. 8th, 2014.

Xue, L. et al., Glaciogenic seeding of wintertime orographic clouds. NCAR/RAL HAP RIPR, Boulder, CO, May 2013.

Xue, L. et al., Comparisons of Properties in a Squall Line Between Observations and Bin Microphysics Simulations. DOE ASR science meeting, Washington D.C., Mar. 11th. 2014.

**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 $CO_2$ 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.