

Daniel T. Dawson II

Associate Professor
Department of Earth, Atmospheric, and Planetary
Sciences
Purdue University

West Lafayette, IN 47907
Phone: (765) 494-5999
dandawson@purdue.edu

EDUCATION

- 2009 Ph.D.**, University of Oklahoma, School of Meteorology (advisor Ming Xue)
2004 M.S., University of Oklahoma, School of Meteorology (advisor Ming Xue)
2002 B.S. (with highest distinction), Department of Earth and Atmospheric Sciences, Purdue University

PROFESSIONAL APPOINTMENTS

- 2023 – present** Associate Professor, Department of Earth, Atmospheric, and Planetary Sciences (EAPS), Purdue University
- 2015 – 2023** Assistant Professor, Department of Earth, Atmospheric, and Planetary Sciences (EAPS), Purdue University
- 2014** NSF Postdoctoral Research Fellow, Center for Analysis and Prediction of Storms (CAPS)
- 2013 – 2015** Research Scientist, CAPS
- 2012, 2013** Visiting Scientist, Mesoscale and Microscale Meteorology (MMM) division, National Center for Atmospheric Research (NCAR)
- 2012** National Science Foundation (NSF) Postdoctoral Research Fellow, National Severe Storms Laboratory (NSSL)
- 2011 – 2012** Research Scientist at the Cooperative Institute for Mesoscale Meteorological Studies (CIMMS)
- 2009 – 2011** National Research Council (NRC) Postdoctoral Research Associate, NSSL
- 2009** Postdoctoral Research Scientist, CAPS
- 2002 – 2009** Graduate Research Assistant, School of Meteorology (SoM), University of Oklahoma (OU)

FUNDING

Current:

- **Principal investigator:** Environmental and Storm-generated Controls in Modulating Quasi-linear Convective System Vertical Vorticity: Dynamics and Detection, Sub-award from Texas Tech University. Proposal to NOAA/DOC. \$299,946. July 2021 – June 2024.
- **Principal investigator:** Investigating how changing environmental conditions favor tornadoes shifting eastward over North America (FINESST fellowship for Ph.D. student Qin Jiang). \$135,000. September 2021 – August 2024.
- **Principal investigator:** CAREER: Variability of severe convective storm mode and hazards as a function of environment and pre-convective updraft forcing, NSF award #2146262-AGS, \$651,653, May 2022 – April 2027

- **Co-principal investigator:** Collaborative Research: Combining self-organized maps and idealized storm-scale simulations to investigate the effect of future climate change on severe convective storms, NSF award #2209052, \$450,135, July 2022 – June 2025.
- **Principal investigator:** Investigation of microphysical processes in SE-US tornadic QLCSs through in situ surface disdrometer observations in support of PERiLS 2023. NOAA/DOC contract #1305M323PNRMA0093. \$68,747. January 2023 – June 2024.

Pending:

- **Co-principal investigator:** Collaborative Research: AGS-FIRP Track 3: In-situ Collaborative Experiment for the Collection of Hail In the Plains (ICECHIP). \$432,922, September 2024 – August 2028.

Past:

- **Principal investigator:** VORTEX-SE: Understanding the influence of microphysical processes on the environment and behavior of southeastern-U.S. potentially tornadic storms, NOAA/DOC award NA18OAR4590313, \$295,864, September 2018 – August 2023.
- **Co-principal investigator:** *VORTEX-SE: Characterization of microphysical processes in potentially tornadic Southeast U.S. storms via polarimetric radar - disdrometer - lightning synthesis*, NOAA/DOC award NA19OAR4590209, **\$227,901**, November 2019 – October 2022.
- **Principal investigator:** Investigation of microphysical processes in SE-US tornadic QLCSs through in situ surface disdrometer observations in support of PERiLS, NOAA/DOC contract #1305M320PNRMA0628SEP, \$111,981, September 2020 – September 2022
- **Co-principal investigator:** *Flexible, Portable Kit-Based Laboratory Instruction in Atmospheric Science*, **\$14,962**, Provost Instructional Equipment, February 2021.
- **Principal investigator:** *Ross Graduate Fellowship-Assistantship: Qin Jiang*. **\$30,428.00**. August 2019 – August 2020
- **Principal Investigator:** *Development of a Numerical Storm-scale Ensemble Forecasting System for High-Impact Weather in the Midwest U.S.*, Purdue College of Science Summer PRF Faculty Award, **\$10,400**, Summer 2018.
- **Lead principal investigator:** *Improved Understanding of Tornado Development and Risk using Models and Observations from VORTEX-SE 2017*, NOAA/DOC, **\$173,981**, September 2016 – August 2018.
- **Co-principal investigator:** *Improved Understanding of Tornado Development and Risk using Models and Observations from VORTEX-SE*, NOAA/DOC, **\$192,901**, September 2015 – August 2017.
- **Co-principal investigator:** *Integration of Modern Meteorological Instrumentation and Hands-on Laboratory Equipment into the Atmospheric Science Curriculum*. Purdue Instructional Innovation Program. **\$16,965.73**. Spring 2016 – Spring 2017

TEACHING

Purdue University

- 2024** Spring: Instructor, EAPS 53200 Atmospheric Physics I
2023 Fall: Instructor, EAPS 53900 Mesoscale Meteorology
2023 Summer: Co-Instructor, EAPS 59100 Severe Storms Field Work

- 2022 Fall: Instructor, EAPS 53900 Mesoscale Meteorology
 2022 Summer: Co-Instructor, EAPS 59100 Severe Storms Field Work
 2022 Spring: Instructor, EAPS 53200 Atmospheric Physics I
 2021 Fall: Instructor, EAPS 53900 Mesoscale Meteorology
 2021 Spring: Instructor, EAPS 53200 Atmospheric Physics I
 2020 Fall: Instructor, EAPS 53900 Mesoscale Meteorology
 2020 Spring: Instructor, EAPS 53200 Atmospheric Physics I
 2019 Fall: Instructor, EAPS 53600 Mesoscale Meteorology
 2019 Spring: Instructor, EAPS 53200 Atmospheric Physics I
 2018 Fall: Instructor, EAPS 49700 Undergraduate Research Experience (2 students)
 2018 Spring: Instructor, EAPS 49700 Undergraduate Research Experience (2 students)
 2018 Spring: Instructor, EAPS 53200 Atmospheric Physics I
 2017 Fall: Instructor, EAPS 42100 Atmospheric Thermodynamics
 2017 Fall: Instructor, EAPS 22600 Introduction to Atmospheric Science Research
 2017 Summer: Co-Instructor, EAPS 59100 Severe Storms Field Work
 2017 Spring: Guest Lecturer, EAPS 13700 Freshman Seminar
 2016 Fall: Instructor, EAPS 59100 Mesoscale Meteorology
 2016 Summer: Co-Instructor, EAPS 59100 Severe Storms Field Work
 2016 Spring: Co-Instructor, EAPS 40900 Application of Computers to Meteorology
 2016 Spring: Instructor, EAPS 39100 Special Topics: ATMS Modeling
 2016 Spring: Co-Instructor, EAPS 39100 Special Topics: VORTEX-SE Field Research
 2016 Spring: Guest Lecturer, EAPS 13700 Freshman Seminar
 2015 Fall: Guest Lecturer, EAPS 32700 Climate Science and Society
University of Oklahoma
 2014 Fall: Guest Lecturer, METR 5303 Objective Analysis
 2013 Fall: Guest Lecturer, METR 5344 Computational Fluid Dynamics I
 2005 Spring: Co-Instructor, METR 4433 Mesoscale Meteorology
- Responsible for 50% of lecturing and 50% developing and grading of assignments and exams.

STUDENTS ADVISED (BOLD = MAIN ADVISOR)

- 2023 – present Jacob Bruss, Purdue, M.S. Committee
 2023 – present Ka Ying Ho, Purdue, Ph.D. Committee
 2023 – present Valentina Castaneda Amaya, Purdue, Ph.D. Committee
 2023 – present Zhaoyu Liu, Purdue, Ph.D. Committee
 2023 – present Jose Alfredo Ocegueda Sanchez, Purdue, Ph.D. Committee
 2022 – present **Lauren Kiefer, Purdue, Ph.D. Thesis co-advisor**
 2022 – present **Kristen Axon, Purdue, Ph.D. Thesis advisor**
 2022 – present **Hamid Ali Syed, Purdue, Ph.D. Thesis advisor**
 2019 – present **Qin Jiang, Purdue, Ph.D. Thesis advisor.**
 2019 – 2023 Funing Li, Purdue, Ph.D. Committee
 2018 – 2023 Allison LaFleur, Purdue, Ph.D. Committee
 2023 **Cole Sand, Purdue, Undergraduate research advisor**
 2022 **Faith Vendl, Purdue, Undergraduate research advisor**
 2022 **Matthew Graber, Purdue, Undergraduate research advisor**
 2022 **Quinn Wilson, Purdue, Undergraduate research advisor**
 2020 – 2022 Geeta Nain, Purdue, Ph.D. Committee

2017 – 2022	Milind Sharma, Purdue, Ph.D. Committee
2019 – 2021	Kuan-yu Lu, Purdue, Ph.D. Committee
2019 – 2021	Susan Beveridge, Purdue, M.S. Committee
2019 – 2021	Connor Belak, Purdue, M.S. Thesis advisor, graduated Spring 2021
2019 – 2021	Marcus Terrell, Purdue, M.S. Thesis advisor, graduated Summer 2021
2019 – 2020	Zachary Burman, Purdue: Undergraduate research advisor
2018 – 2020	Logan Downing, Purdue, M.S. Committee
2018 – 2019	J. P. Cole, Purdue: Undergraduate research advisor
2018 – 2019	Matthew Asel, Purdue: Undergraduate research advisor
2018	Joshua Gable, Purdue, Undergraduate research advisor
2018	Daniel Dietz, Purdue, M.S. Committee
2017 – 2021	Jie Chen, Purdue, Ph.D. Committee
2017 – 2018	Patrick Saunders, Purdue, M.S. Committee
2017	Logan Dawson, Purdue, Ph.D. Committee
2016 – 2018	Jessica Lee (née Bozell), Purdue; M.S. Thesis advisor, graduated Spring 2018
2016 – 2018	Mingyang Guo, Purdue; M.S. Thesis advisor, graduated Summer 2018
2014 – 2016	Marcus Johnson, OU; Member of M.S. Thesis Committee
2013 – 2016	Brett Roberts, OU; Member of Ph.D. Dissertation Committee
2012 – 2014	Theo Kuhn; high school science project mentor
2009	Informal advisement of Charlotte Wainwright's M.S. research

RESEARCH INTERESTS

- Dynamics and numerical modeling of severe convective storm and tornadoes
- Cloud and precipitation microphysics and their parameterizations in numerical models
- EnKF radar data assimilation and ensemble prediction on convective scales
- Disdrometer and polarimetric radar measurements of precipitation systems
- Computational fluid dynamics, numerical methods, NWP model development and improvement

PUBLICATIONS

Peer-reviewed publications

As of 3/05/2024 (citation information from

<https://scholar.google.com/citations?user=kJtkwjoAAAAJ&hl=en>):

- h-index: 21
 - i10-index: 26
 - Total number of citations: 1594
1. **Dawson, D. T., II**, and M. Xue (2006): Numerical forecasts of the 15-16 June 2002 Southern Plains severe MCS: Impact of mesoscale data and cloud analysis, *Monthly Weather Review*, **134**, 1607-1629, doi: <http://dx.doi.org/10.1175/MWR3141.1>, citations: 50
 2. Zhang, G., M. Xue, Q. Cao, and **D. T. Dawson II** (2008): Diagnosing the intercept parameter for exponential raindrop size distribution based on video disdrometer observations, *Journal of Applied Meteorology and Climatology*, **47**, 2983-2992, doi: <http://dx.doi.org/10.1175/2008JAMC1876.1>, citations: 76
 3. **Dawson, D. T., II**, M. Xue, J. Milbrandt, and M. K. Yau (2010): Comparison of Evaporation

- and Cold Pool Development between Single-Moment and Multimoment Bulk Microphysics Schemes in Idealized Simulations of Tornadoic Thunderstorms. *Monthly Weather Review*, **138**, 1152-1171, doi: <http://dx.doi.org/10.1175/2009MWR2956.1>, citations: 244
4. **Dawson, D. T., II**, L. Wicker, E. Mansell, and R. Tanamachi (2012): Impact of the environmental low-level wind profile on ensemble forecasts of the 4 May 2007 Greensburg, KS tornadoic storm and associated mesocyclones. *Monthly Weather Review*, **140**, 696-712, doi:<http://dx.doi.org/10.1175/MWR-D-11-00008.1>, citations: 100
 5. Stensrud, D. J., L. J. Wicker, M. Xue, **D. T. Dawson**, N. Yussouf, D. M. Wheatley, T. E. Thompson, N. A. Snook, T. M. Smith, A. D. Schenkman, C. K. Potvin, E. R. Mansell, T. Lei, K. M. Kuhlman, Y. Jung, T. A. Jones, J. Gao, M. C. Coniglio, H. E. Brooks, and K. A. Brewster (2013): Progress and Challenges with Warn-on-Forecast. *Atmospheric Research*, **123**, 2-16, doi:<http://dx.doi.org/10.1016/j.atmosres.2012.04.004>, citations: 207
 6. Tanamachi, R. L., L. J. Wicker, D. C. Dowell, H. B. Bluestein, **D. T. Dawson II**, and M. Xue (2013): EnKF Assimilation of High-Resolution, Mobile Doppler Radar Data of the 4 May 2007 Greensburg, Kansas, Supercell into a Numerical Cloud Model. *Monthly Weather Review*, **141**, 625-648, doi: <http://dx.doi.org/10.1175/MWR-D-12-00099.1>, citations: 39
 7. Reeves, H. D., and **D. T. Dawson II** (2013): The Dependence of QPF on the Choice of Microphysical Parameterization for Lake-Effect Snowstorms. *Journal of Applied Meteorology and Climatology*, **52**, 363-377, doi: <http://dx.doi.org/10.1175/JAMC-D-12-019.1>, citations: 32
 8. **Dawson, D. T., II**, L. Wicker, E. Mansell, Y. Jung, and M. Xue (2013): Low-level Polarimetric Radar Signatures in EnKF Analyses and Forecasts of the 8 May 2003 Oklahoma City Tornadoic Supercell: Impact of Multi-moment Microphysics and Comparisons with Observations, *Advances in Meteorology*, vol. 2013, Article ID 818394, 13 pages, doi: <http://dx.doi.org/10.1155/2013/818394>, citations: 14
 9. **Dawson, D. T., II**, E. Mansell, Y. Jung, L. Wicker, M. Kumjian, and M. Xue (2014): Low-level Z_{DR} Signatures in Supercell Forward Flanks: the Role of Size Sorting and Melting of Hail. *Journal of the Atmospheric Sciences*, **71**, 276-299, doi: <http://dx.doi.org/10.1175/JAS-D-13-0118.1>, citations: 152
 10. Wainwright, C. E., **D. T. Dawson II**, M. Xue, and G. Zhang (2014): Diagnosing the Intercept Parameters of the Exponential Drop Size Distributions in a Single-Moment Microphysics Scheme and Impact on Supercell Storm Simulations. *Journal of Applied Meteorology and Climatology*, **53**, 2072-2090, doi: <http://dx.doi.org/10.1175/JAMC-D-13-0251.1>, citations: 43
 11. **Dawson, D. T., II**, E. Mansell, and M. Kumjian (2015): Does Wind Shear Cause Hydrometeor Size Sorting? *Journal of the Atmospheric Sciences*, **72**, 340-348, doi: <http://dx.doi.org/10.1175/JAS-D-14-0084.1>, citations: 71
 12. **Dawson, D. T., II**, M. Xue, J. Milbrandt, and A. Shapiro (2015): Sensitivity of Real-data Simulations of the 3 May 1999 Oklahoma City Tornadoic Supercell and Associated Tornadoes to Multi-moment Microphysics. Part I: Storm- and Tornado-scale Numerical Forecasts. *Monthly Weather Review*, **143**, 2241-2265, doi:<http://dx.doi.org/10.1175/MWR-D-14-00279.1>, citations: 55
 13. **Dawson, D. T., II**, M. Xue, A. Shapiro, J. Milbrandt, and A. Schenkman (2016): Sensitivity of Real-data Simulations of the 3 May 1999 Oklahoma City Tornadoic Supercell and Associated Tornadoes to Multi-moment Microphysics. Part II: Analysis of Buoyancy and

- Dynamic Pressure Forces in Simulated Tornado-Like Vortices. *Journal of the Atmospheric Sciences*, **73**, 1039-1061, doi: <http://dx.doi.org/10.1175/JAS-D-15-0114.1>, citations: 28
14. Schenkman, A. D., M. Xue, **D. T. Dawson II** (2016): The Cause of Internal Outflow Surges in a High-Resolution Simulation of the 8 May 2003 Oklahoma City Tornadoic Supercell. *Journal of the Atmospheric Sciences*, **73**, 353-370, doi: <http://dx.doi.org/10.1175/JAS-D-15-0112.1>, citations: 48
 15. Johnson, M., Y. Jung, **D. T. Dawson II**, and M. Xue (2016): Comparison of Simulated Polarimetric Signatures in Idealized Supercell Storms using Two-moment Bulk Microphysics Schemes in WRF. *Monthly Weather Review*, **144**, 971-996, doi: <http://dx.doi.org/10.1175/MWR-D-15-0233.1>, citations: 64
 16. Roberts, B., M. Xue, A. D. Schenkman, and **D. T. Dawson II** (2016): The Role of Surface Drag in Tornadogenesis within an Idealized Supercell Simulation. *Journal of the Atmospheric Sciences*, **73**, 3371–3395, doi: <http://dx.doi.org/10.1175/JAS-D-15-0332.1>, citations: 83
 17. Snyder, J. C., H. B. Bluestein, **D. T. Dawson II**, and Y. Jung (2017): Simulations of Polarimetric, X-Band Radar Signatures in Supercells. Part I: Description of Experiment and Simulated ρ_{hv} Rings. *Journal of the Atmospheric Sciences*, **56**, 1977-1999, <https://doi.org/10.1175/JAMC-D-16-0138.1>, citations: 25
 18. Snyder, J. C., H. B. Bluestein, **D. T. Dawson II**, and Y. Jung (2017): Simulations of Polarimetric, X-Band Radar Signatures in Supercells. Part II: ZDR Columns and Rings and K-DP Columns. *Journal of the Atmospheric Sciences*, **56**, 2001-2026, <https://doi.org/10.1175/JAMC-D-16-0139.1>, citations: 42
 19. Johnson, M., Y. Jung, **D. T. Dawson II**, T. Supinie, M. Xue, J. Park, and Y.-H. Lee (2018): Evaluation of Unified Model microphysics in high-resolution NWP simulations using polarimetric radar observations. *Adv. Atmos. Sci.*, **35**, 771-784, <https://doi.org/10.1007/s00376-017-7177-0>, citations: 14
 20. **Dawson, D. T., II**, B. Roberts, and M. Xue (2019): A method to control the environmental wind profile in idealized simulations of deep convection with surface friction. *Monthly Weather Review*, **147**(11), 3935–3954. <https://doi.org/10.1175/MWR-D-18-0462.1>, citations: 11
 21. Roberts, B., M. Xue, & **D. T. Dawson II** (2020). The effect of surface drag strength on mesocyclone intensification and tornadogenesis in idealized supercell simulations. *Journal of the Atmospheric Sciences*, JAS-D-19-0109.1. <https://doi.org/10.1175/JAS-D-19-0109.1>, citations: 25
 22. Rocadenbosch, F., R. Barragan, S. J. Frasier, J. Waldinger, D. D. Turner, R. L. Tanamachi, **D. T. Dawson II** (2020). Ceilometer-Based Rain-Rate Estimation: A Case-Study Comparison With S-Band Radar and Disdrometer Retrievals in the Context of VORTEX-SE. *IEEE Transactions on Geoscience and Remote Sensing*, **58**, 8268-8284. <https://doi.org/10.1109/TGRS.2020.2984458> citations: 6
 23. Tanamachi, R. L., **D. T. Dawson II**, & L. Carleton Parker (2020). Students of Purdue Observing Tornadoic Thunderstorms for Research (SPOTTR) A Severe Storms Field Work Course at Purdue University, *Bulletin of the American Meteorological Society*, **101**(6), E847-E868. Retrieved Feb 24, 2021, from <https://journals.ametsoc.org/view/journals/bams/101/6/bamsD190025.xml>, citations: 8
 24. Li, F., D. R. Chavas, K. A. Reed, & **D. T. Dawson II** (2020). Climatology of Severe Local

- Storm Environments and Synoptic-Scale Features over North America in ERA5 Reanalysis and CAM6 Simulation, *Journal of Climate*, 33(19), 8339-8365. Retrieved Feb 24, 2021, from <https://journals.ametsoc.org/view/journals/clim/33/19/jcliD190986.xml>, citations: 51
25. Mansell, E. R., **D. T. Dawson II**, & J. M. Straka (2020). Bin-Emulating Hail Melting in Three-Moment Bulk Microphysics, *Journal of the Atmospheric Sciences*, 77(10), 3361-3385. Retrieved Feb 24, 2021, from <https://journals.ametsoc.org/view/journals/atsc/77/10/jasD190268.xml>, citations: 7
26. Chavas, D. R., & **D. T. Dawson II** (2021). An Idealized Physical Model for the Severe Convective Storm Environmental Sounding, *Journal of the Atmospheric Sciences*, 78(2), 653-670. Retrieved Mar 12, 2021, from <https://journals.ametsoc.org/view/journals/atsc/78/2/JAS-D-20-0120.1.xml>, citations: 21
27. Milbrandt, J. A., H. Morrison, **D. T. Dawson II**, & M. Paukert (2021). A Triple-Moment Representation of Ice in the Predicted Particle Properties (P3) Microphysics Scheme, *Journal of the Atmospheric Sciences*, 78(2), 439-458. Retrieved Mar 12, 2021, from <https://journals.ametsoc.org/view/journals/atsc/78/2/jas-d-20-0084.1.xml>, citations: 30
28. Li, F., D. R. Chavas, K. Reed, N. Rosenbloom, & **D. T. Dawson II** (2021). The role of elevated terrain and the Gulf of Mexico in the production of severe local storm environments over North America. *Journal of Climate*, 34(19), 7799-7819. Retrieved Mar 9, 2022, from <https://journals.ametsoc.org/view/journals/clim/34/19/JCLI-D-20-0607.1.xml>, citations: 12
29. Brauer, N., A. Alford, S. Waugh, M. Biggerstaff, G. Carrie, P.-E. Kirstetter, J. Basara, **D. T. Dawson II**, K. Elmore, J. Stevenson, & R. Moore (2022). Hurricane Laura (2020): A Comparison of Drop Size Distribution Moments Using Ground and Radar Remote Sensing Retrieval Methods. *Journal of Geophysical Research: Atmospheres*. 127(16), e2021JD035845, <https://doi.org/10.1029/2021JD035845>, citations: 2
30. LaFleur, A., R. Tanamachi, **D. T. Dawson II**, & D. Turner (2023). Factors Affecting the Rapid Recovery of CAPE on 31 March 2016 During VORTEX-Southeast, *Monthly Weather Review*, 151(6), 1459-1477, <https://doi.org/10.1175/MWR-D-22-0051.1>, citations: 1
31. Jiang, Q. & **D. T. Dawson II**. The impact of surface drag on the structure and evolution of surface boundaries associated with tornadogenesis in simulated supercells. *Monthly Weather Review*, 151(12), 3037-3061, <https://doi.org/10.1175/MWR-D-23-0050.1>

Peer-reviewed Papers Submitted or in Preparation

32. Jiang, Q., **D. T. Dawson II**, and D. R. Chavas (2024). What controls the optimal drag strength for tornado-like vortex formation and duration in different environments? *Monthly Weather Review*, to be submitted.
33. **Dawson, D. T., II**, J. Lee, G. Zhang, M. Biggerstaff, & S. Waugh (2024): Comparing Disdrometer-measured Raindrop Size Distributions from VORTEX-SE with Distributions from Polarimetric Radar Retrievals Using the Constrained Gamma Method. *Journal of Applied Meteorology and Climatology*, in preparation.
34. **Dawson, D. T., II**, G. Romine, G. Bryan, K. Friedrich & E. R. Mansell (2024): Comparison of simulated and observed rain drop size distributions in supercell storms from VORTEX-2. *Monthly Weather Review*, in preparation.
35. Belak, C., **D. T. Dawson II**, & E. R. Mansell (2024). Verification of simulated DSDs and sensitivity to CCN concentration in EnKF analysis and ensemble

forecasts of the 30 April 2017 tornadic QLCS during VORTEX-SE. *Monthly Weather Review*, in preparation.

Conference Papers

- Jiang, Q., F. Li, **D. T. Dawson II**, & D. R. Chavas (2023). Is the synoptic pattern changing to favor tornadoes shifting eastward over North America in the warming climate? *AGU Fall Meeting 2023, American Geophysical Union*, A21C-2261, <https://agu.confex.com/agu/fm23/meetingapp.cgi/Paper/1413962>
- Syed, H. A., **D. T. Dawson II**, F. Vendl, R. L. Tanamachi, & M. D. Parker (2023). DSD Characteristics and Evolution of the Leading Stratiform Region of a Tornadic QLCS during PERiLS-2022 IOP#2 (30 March 2022). *40th Conf. on Radar Meteorology, American Meteorological Society*, 16A.3, <https://ams.confex.com/ams/40RADAR/meetingapp.cgi/Paper/426254>
- **Dawson, D. T., II**, K. Axon, J. A. Bruss, D. Gery, Q. Jiang, L. Kiefer, C. Sand, H. A. Syed, F. Vendl, M. I. Biggerstaff & S. M. Waugh (2023). An Overview of Purdue's Mobile Disdrometer Operations in PERiLS 2023. *40th Conf. on Radar Meteorology, American Meteorological Society*, 11A.6, <https://ams.confex.com/ams/40RADAR/meetingapp.cgi/Paper/426256>
- Tanamachi, R. L., A. Lafleur, & **D. T. Dawson II** (2023). Impacts of Hail on Simulated ZDR Arc Identification. *40th Conf. on Radar Meteorology, American Meteorological Society*, 12A.6, <https://ams.confex.com/ams/40RADAR/meetingapp.cgi/Paper/426166>
- Jiang, Q., & **D. T. Dawson II** (2022). What controls the optimal surface drag strength for tornadogenesis in different environments?, *AGU Fall Meeting 2022, American Geophysical Union*, A45H-08, <https://agu.confex.com/agu/fm22/meetingapp.cgi/Paper/1164912>
- **Dawson, D. T., II**, Q. Jiang, J. A. Bruss, M. Graber, F. Li, H. A. Syed, F. Vendl, Q. Wilson, M. I. Biggerstaff & S. M. Waugh (2022). Overview of Purdue's Mobile Disdrometer Operations in PERiLS 2022, *AGU Fall Meeting 2022, American Geophysical Union*, A42R-1938, <https://agu.confex.com/agu/fm22/meetingapp.cgi/Paper/1119340>
- Sharma, M., R. L. Tanamachi, **D. T. Dawson II**, E. C. Bruning, E. R. Mansell (2022). Investigating the Relationship between Cloud Microphysics and Electrification in Southeast US Storms Using Cold pool and Lightning Characteristics. *30th Conf. on Severe Local Storms, American Meteorological Society*, 18.2, <https://ams.confex.com/ams/30SLS/meetingapp.cgi/Paper/407215>
- Jiang, Q., & **D. T. Dawson II** (2022). What controls the optimal surface drag strength for tornadogenesis in different environments?, *30th Conf. on Severe Local Storms, American Meteorological Society*, 18.4, <https://ams.confex.com/ams/30SLS/meetingapp.cgi/Paper/407437>
- **Dawson, D. T., II**, Q. Jiang, J. A. Bruss, M. Graber, F. Li, H. A. Syed, F. Vendl, Q. Wilson, M. I. Biggerstaff & S. M. Waugh (2022). Overview of Purdue's Mobile Disdrometer Operations in PERiLS 2022, *30th Conf. on Severe Local Storms, American Meteorological Society*, P154, <https://ams.confex.com/ams/30SLS/meetingapp.cgi/Paper/407680>
- Jiang, Q., & **D. T. Dawson II** (2022). The Impact of Surface Drag on the Structure and Evolution of Surface Boundaries Associated with Tornadogenesis in Simulated Supercells, *102nd AMS Annual Meeting, American Meteorological Society*, 11.3, <https://ams.confex.com/ams/102ANNUAL/meetingapp.cgi/Paper/399078>.

- Brauer, N., A. Alford, S. Waugh, M. Biggerstaff, P-E. Kirstetter, J. Basara, G. Carrie, & **D. T. Dawson II** (2022). Hurricane Laura (2020): A Comparison of Drop Size Distribution Moments Using Ground and Radar Remote Sensing Retrievals, 102nd AMS Annual Meeting, American Meteorological Society, 14B.2, <https://ams.confex.com/ams/102ANNUAL/meetingapp.cgi/Paper/393354>
- Brauer, N., A. Alford, S. Waugh, M. Biggerstaff, P-E. Kirstetter, G. Carrie, J. Basara, & **D. T. Dawson II** (2021). Hurricane Laura (2020): A Comparison of Drop Size Distribution Moments Using Ground and Radar Remote Sensing Retrieval Methods, American Geophysical Union, A23A-09, <https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/898660>
- Li, F., D. R. Chavas, K. Reed, N. Rosenbloom, **D. T. Dawson II**, & B. Medeiros (2021). Understanding the geographic controls of severe thunderstorm environments using real-world and idealized global climate model experiments. AGU Fall Meeting 2021, American Geophysical Union, A15H-1754, <https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/999162>
- Jiang, Q., & **D. T. Dawson II** (2021). The impact of variations of low-level structure associated with surface drag on intensification of simulated tornadoes. AGU Fall Meeting 2021, American Geophysical Union, A45V-2161, <https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/991220>
- Li, F., D. R. Chavas, K. Reed, N. Rosenbloom, & **D. T. Dawson II** (2021): The role of elevated terrain and the Gulf of Mexico in the production of severe local storm environments over North America. *Mesoscale Symposium, 101st AMS Annual Meeting*, New Orleans, Louisiana, American Meteorological Society, P337
- Belak, C., **D. T. Dawson II**, & E. R. Mansell (2021): Verification of Simulated DSDs and Sensitivity to CCN Concentration in EnKF Analyses and Ensemble Forecasts of the 30 April 2017 tornadic QLCS during VORTEX-SE. *25th Conference on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS), 101st AMS Annual Meeting*, New Orleans, Louisiana, American Meteorological Society, 4.5
- Terrell, M. L., **D. T. Dawson II**, & R. L. Tanamachi (2021): Investigating the Effects of Size Sorting on the Vertical Variation of Raindrop Size Distributions Using a Collocated FMCW Profiling Radar and Parsivel Disdrometer during VORTEX-SE. *21st Symposium on Meteorological Observation and Instrumentation, 101st AMS Annual Meeting*, New Orleans, Louisiana, American Meteorological Society, 4.2
- Jiang, Q., & **D. T. Dawson II** (2021). The Impact of Surface Drag on the Low-Level Structure of Tornadic Storms in Idealized Simulations. *Mesoscale Symposium, 101st AMS Annual Meeting*, New Orleans, Louisiana, American Meteorological Society, 1.8
- Tanamachi, R. L., L. Carleton Parker, & **D. T. Dawson II** (2021): Benefits of Active Student Participation in a Severe Storms Field Work Course. *30th Conf. on Education*, 101st AMS Annual Meeting, New Orleans, Louisiana, American Meteorological Society, 11.8.
- Sharma, M., R. L. Tanamachi, **D. T. Dawson II**, Y. Jung, E. Mansell, E. C. Bruning, and K. W. Thomas (2021): Investigating the Coupling of Supercell Dynamics and Microphysics through Lightning and Cold Pools. *10th Conf. on the Meteorological Application of Lightning Data*, 101st AMS Annual Meeting, New Orleans, Louisiana, American Meteorological Society, P559.
- Li, F., D. R. Chavas, K. Reed, N. Rosenbloom, & **D. T. Dawson II** (2020). The role of elevated terrain and the Gulf of Mexico in the production of severe local storm environments over

North America. AGU Fall Meeting 2020, American Geophysical Union, A160-02, <https://agu.confex.com/agu/fm20/meetingapp.cgi/Paper/741052>

- Jiang, Q., & **D. T. Dawson II** (2020). The impact of surface drag on the low-level structure of tornadic storms in idealized simulations. AGU Fall Meeting 2020, American Geophysical Union, A134-04, <https://agu.confex.com/agu/fm20/meetingapp.cgi/Paper/741496>
- Belak, C., **D. T. Dawson II**, & E. Mansell (2020). Verification of simulated DSDs and sensitivity to CCN concentration in EnKF analyses and ensemble forecasts of the 30th April 2017 tornadic QLCS during VORTEX-SE. AGU Fall Meeting 2020, American Geophysical Union, A134-07. <https://agu.confex.com/agu/fm20/meetingapp.cgi/Paper/738655>
- **D. T. Dawson II**, R. L. Tanamachi, Y. Jung, J. Labriola, B. J. Putnam, M. Xue, P. L. Heinselman, K. H. Knopfmeier, E. R. Mansell, & L. J. Wicker (2020): Comparison of Simulated Rain DSDs and Polarimetric Signatures with Disdrometer and Radar Observations in the 31 March 2016 Southeast U.S. Tornado Outbreak during VORTEX-SE. Severe Local Storms Symposium, 100th Annual Meeting of the American Meteorological Society, Boston, Massachusetts, American Meteorological Society, P928, <https://ams.confex.com/ams/2020Annual/meetingapp.cgi/Paper/369570>.
- Chavas, D. R., & **D. T. Dawson II** (2020): Testing a Physics-Based Model of the Thermodynamic Environment in Supercell Simulation Experiments. 100th Annual Meeting of the American Meteorological Society, Boston, Massachusetts, American Meteorological Society, P943, <https://ams.confex.com/ams/2020Annual/meetingapp.cgi/Paper/365640>
- Li, F., D. R. Chavas, K. A. Reed, **D. T. Dawson II** (2019): Geographic Controls of Severe Local Storm Environments over North America: Role of the Rocky Mountains and the Gulf of Mexico. *AGU Fall Meeting 2019*, San Francisco, CA, AGU, A33K-3001.
- Mansell, E. R. & **D. T. Dawson II** (2019): Bin-Emulating Melting in a Bulk Microphysics Scheme. *AGU Fall Meeting 2019*, San Francisco, CA, AGU, A41Q-2890.
- **Dawson, D. T., II**, R. L. Tanamachi, Y. Jung, J. Labriola, B. J. Putnam, M. Xue, P. L. Heinselman, K. H. Knopfmeier, E. R. Mansell, & L. J. Wicker (2019): Using EnKF radar data assimilation to analyze the impact of microphysical processes on the evolution of the 31 March 2016 Southeast-U.S. tornado outbreak during VORTEX-SE. *39th Int. Conf. on Radar Meteorology*, Nara, Japan, American Meteorological Society, 9B – 06.
- Tanamachi, R. L., L. Warner, M. Sharma, A. T. LaFleur, & **D. T. Dawson II** (2019): The X-band Teaching and Research Radar (XTRRA) at Purdue University, U.S.A.: Updates and new initiatives. *39th Int. Conf. on Radar Meteorology*, Nara, Japan, American Meteorological Society, P3-22.
- Sharma, M., R. L. Tanamachi, **D. T. Dawson II**, Y. Jung, & K. Thomas (2019): Analysis of the Edmond-Carney Tornadic Supercell by EnKF Assimilation of S-band Radar Data. *39th Int. Conf. on Radar Meteorology*, Nara, Japan, American Meteorological Society, P1-69.
- LaFleur, A. T., R. L. Tanamachi, **D. T. Dawson II**, R. E. Nelson, and B. Coffey (2019): Automated identification of Z_{DR} arcs in simulated radar data: A comparative study. *39th Int. Conf. on Radar Meteorology*, Nara, Japan, American Meteorological Society, P2-72.
- **Dawson, D. T., II**, R. L. Tanamachi, Y. Jung, J. Labriola, B. Putnam, M. Xue, K. Knopfmeier, E. R. Mansell, and L. J. Wicker (2019): Preliminary comparison of simulated rain DSDs with disdrometer observations in the 31 March 2016 Southeast-U.S. tornado outbreak during VORTEX-SE. 2019 VORTEX-SE Workshop, Huntsville, AL.

- Tanamachi, R. L., E. Bruning, **D. T. Dawson II**, & C. Weiss (2019): Characterization of microphysical processes in potentially tornadic Southeast U.S. storms via polarimetric radar - disdrometer - lightning synthesis. 2019 VORTEX-SE Workshop, Huntsville, AL.
- Cole, J., M. Asel, S. Harrel, **D. T. Dawson II**, & M. E. Baldwin (2019): Analyzing the Role of a Long-Lived Mesoscale Convective Vortex in Mesoscale Ensemble Analyses of the 24 August 2016 Indiana-Ohio-Ontario Tornado Outbreak. *18th Annual Student Conference, 99th American Meteorological Society Annual Meeting*, Phoenix, Arizona, American Meteorological Society, S173.
- **Dawson, D. T., II**, M. E. Baldwin, L. J. Wicker, and K. H. Knopfmeier (2019): Exploring the "Surprise" 24 August 2016 Indiana–Ohio–Ontario Tornado Outbreak with Meso- and Storm-Scale Ensemble Simulations. *Special Symposium on Mesoscale Meteorological Extremes: Understanding, Prediction, and Projection, 99th American Meteorological Society Annual Meeting*, Phoenix, Arizona, American Meteorological Society, P366
- Tanamachi, R. L., **D. T. Dawson II**, & L. Carleton Parker (2019): Students of Purdue Observing Tornadic Thunderstorms for Research (SPOTTR): An update. *28th Symp. on Education*, Phoenix, Arizona, American Meteorological Society, 8.2.
- Tanamachi, R. L., **D. T. Dawson II**, & L. Carleton Parker (2019): Observations of Severe Storms by a Low-Power, Polarimetric, Phased-Array Mobile Radar. *Phased Array Radar Symp. at the 99th American Meteorological Society Annual Meeting*, Phoenix, Arizona, American Meteorological Society, 1.3.
- Barragan, R., F. Rocadenbosch, J. Waldinger, S. J. Frasier, D. D. Turner, R. L. Tanamachi, & **D. T. Dawson II** (2018): Rain-rate estimation from ceilometer measurements: A comparative case study using S-band radar and disdrometer retrievals. *10th European Conf. on Radar in Meteorology and Hydrology*, The Netherlands, Wageningen University and Research, 7.5.
- D. Turner (2018): The Role of Direct Insolation and Near-Surface Moisture Advection in the Recovery of CAPE on 31 March 2016 During VORTEX-Southeast. *29th Conf. on Severe Local Storms*, Stowe, Vermont, American Meteorological Society, P100.
- LaFleur, A. T., R. L. Tanamachi, **D. T. Dawson II**, & B. E. Coffey (2018): Simulated Z_{DR} arcs and tornadogenesis: A preliminary study. *29th Conf. on Severe Local Storms*, Stowe, Vermont, American Meteorological Society, P159.
- Tanamachi, R. L., **D. T. Dawson II**, E. M. Agee, & M. Baldwin (2018): A new, polarimetric, X-band Teaching and Research Radar (XTRRA) at Purdue University. *29th Conf. on Severe Local Storms*, Stowe, Vermont, American Meteorological Society, P98.
- Tanamachi, R. L., **D. T. Dawson II**, & L. Carleton Parker (2018): Integration of Research-Grade Meteorological Instrumentation into a Severe Storms Field Work Course at Purdue University. *29th Conf. on Severe Local Storms*, Stowe, Vermont, American Meteorological Society, P99.
- Mansell, E. R., & **D. T. Dawson II** (2018): Supercell Sensitivities to Graupel and Hail Fall Speeds. *29th Conference on Severe Local Storms*, Stowe, Vermont, American Meteorological Society, 13A.4.
- **Dawson, D. T., II**, B. Roberts, & M. Xue (2018): Impact of Surface Drag on Surface Kinematic and Thermodynamic Boundaries in Simulated Supercell Thunderstorms. *29th Conference on Severe Local Storms*, Stowe, Vermont, American Meteorological Society, 3B.4.

- Tanamachi, R. L., **D. T. Dawson II**, M. E. Baldwin, & L. Carleton Parker (2018): Students of Purdue Observing Tornadoic Thunderstorms for Research (SPOTTR): A severe storms field work course at Purdue University. *27th Symp. on Education*, Austin, Texas, American Meteorological Society, P123.
- Guo, M., **D. T. Dawson II**, M. E. Baldwin, & E. R. Mansell (2017): Aerosol Effects on Microphysical Processes, Storm Structure, and Cold Pool Strength in Simulated Supercell Thunderstorms from VORTEX-2 and VORTEX-SE. Abstract A13E-2122 presented at 2017 Fall Meeting, AGU, New Orleans, Louisiana, 11-15 Dec. 2017.
- **Dawson, D. T., II**, M. E. Baldwin, D. R. Chavas, R. L. Tanamachi, & S. J. Frasier (2017): Early Results from the Purdue-UMASS Collaboration During VORTEX-SE 2016-2017. 2017 VORTEX-SE Workshop, Huntsville, AL.
- Bozell, J., **D. T. Dawson II**, R. L. Tanamachi, & S. J. Frasier (2017): Comparing disdrometer measured raindrop size distributions from VORTEX-SE with distributions from polarimetric radar retrievals using the constrained gamma method. *38th Conf. on Radar Meteorology*, Chicago, Illinois, American Meteorological Society, 7A.5.
- **Dawson, D. T., II**, M. E. Baldwin, J. Bozell, J. Buckingham, D. R. Chavas, W. L. Downing, M. Guo, R. L. Tanamachi, A. N. Griffin, H. M. Mallinson, S. J. Frasier, W. Heberling, J. Waldinger, M. I. Biggerstaff, & S. M. Waugh (2017): Overview of Purdue's mobile disdrometer operations during VORTEX-SE 2016-2017. *38th Conf. on Radar Meteorology*, Chicago, Illinois, American Meteorological Society, 23A.2A.
- Barragan, R., F. Rocadenbosch, J. Waldinger, S. J. Frasier, D. Turner, **D. T. Dawson II**, & R. L. Tanamachi (2017). Ceilometer-based Rainfall Rate estimates in the framework of VORTEX-SE campaign: a discussion. *EGU General Assembly Conference Abstracts* (Vol. 19, p. 7079)
- **Dawson, D. T., II**, J. Bozell, J. Buckingham, W. L. Downing, D. R. Chavas, H. M. Mallinson, M. I. Biggerstaff, & S. Waugh (2016): Overview of Purdue's mobile disdrometer operations during VORTEX-SE. 28th Conference on Severe Local Storms, 7-11 November 2016, Portland, OR, American Meteorological Society, 16A.2.
- Roberts, B., M. Xue, A. D. Schenkman, & **D. T. Dawson II** (2016): The Role of Surface Drag in Tornadogenesis within an Idealized Supercell Simulation. 28th Conference on Severe Local Storms, 7-11 November 2016, Portland, OR, 10.4.
- Snyder, J. C., A. V. Ryzhkov, **D. T. Dawson II**, Y. Jung, & A. Khain (2016): Sensitivities of Polarimetric Radar Forward Operators. 28th Conference on Severe Local Storms, 7-11 November 2016, Portland, OR, P75.
- Bozell, J., **D. T. Dawson II**, R. L. Tanamachi, & S. J. Frasier (2016): Preliminary Analyses of Disdrometer Observations in the 2016 VORTEX-SE Field Campaign. 28th Conference on Severe Local Storms, 7-11 November 2016, Portland, OR, P123
- **Dawson, D. T., II**, M. Guo, M. E. Baldwin, & E. R. Mansell (2016): Aerosol Sensitivities in Idealized Simulations of Tornadoic Supercells during VORTEX-SE. 28th Conference on Severe Local Storms, 7-11 November 2016, Portland, OR, P124
- Johnson, M. R., Y. Jung, **D. T. Dawson II**, & M. Xue (2015): Comparison of Polarimetric Signatures Simulated using Two-Moment Bulk Microphysics Schemes in WRF in Idealized Supercell Storms. 37th Conference on Radar Meteorology, 14-18 September 2015, Norman, OK, 3A.6
- **Dawson, D. T., II**, G. H. Bryan, K. Friedrich, Y. Jung, E. R. Mansell, G. Romine, & M. Xue (2015): Comparison of observed and numerically-simulated rain drop size distributions in

VORTEX2 supercells. 37th Conference on Radar Meteorology, 14-18 September 2015, Norman, OK, P281

- Snyder, J. C., Y. Jung, **D. T. Dawson II**, A. V. Ryzhkov, & A. P. Khain (2015): Examining polarimetric forward operators for use with numerical models. 37th Conference on Radar Meteorology, 14-18 September 2015, Norman, OK, P282
- Supinie, T. A., **D. T. Dawson II**, & Y. Jung (2015): A Python-Based Plotter for Model-Derived Polarimetric Radar Variables. 5th Symposium on Advances in Modeling and Analysis Using Python, 95th American Meteorological Society Annual Meeting, 4-8 January 2015, Phoenix, AZ, P411
- Schenkman, A. D., M. Xue, **D. T. Dawson II**, & M. Hu (2014): Internal Momentum Surges in a High-Resolution Simulation of the 8 May 2003 Oklahoma City Tornadoic Supercell. 27th Conference on Severe Local Storms, 3-7 November 2014, Madison, WI, 12A.3.
- **Dawson, D. T., II**, M. Xue, A. Shapiro, & J. A. Milbrandt (2014): Analysis of vertical momentum forcing in real data numerical simulations of tornado-like vortices: sensitivity to microphysics and outflow thermodynamics. 27th Conference on Severe Local Storms, 3-7 November 2014, Madison, WI, 16A.2.
- **Dawson, D. T., II**, E. R. Mansell, & M. R. Kumjian (2014): Does wind shear cause hydrometeor size sorting? 27th Conference on Severe Local Storms, 3-7 November 2014, Madison, WI, P12.
- **Dawson, D. T., II**, E. R. Mansell, Y. Jung, L. J. Wicker, M. R. Kumjian, & M. Xue^M (2013). Comparisons of numerically simulated and observed low-level polarimetric signatures in supercells. 36th Conference on Radar Meteorology, 16-20 September 2013, Breckenridge, CO, 12B.6.
- Snyder, J. C., H. B. Bluestein, **D. T. Dawson II**, & Y. Jung (2013): Examining the effect of the vertical wind shear environment on polarimetric signatures in numerically-simulated supercells. 36th Conference on Radar Meteorology, 16-20 September 2013, Breckenridge, CO, 13B.4.
- **Dawson, D. T., II**, G. H. Bryan, G. Romine, & K. Friedrich (2012): Characterizing rain drop size distributions in supercell hook echoes: results from VORTEX2. 26th Conference on Severe Local Storms, 5-8 November 2012, Nashville, TN, P14.5.
- Stensrud, D. J., L. J. Wicker, E. R. Mansell, J. Gao, M. C. Coniglio, H. E. Brooks, M. Xue, **D. T. Dawson II**, N. Yussouf, D. M. Wheatley, T. A. Jones, R. M. Belobraydich, T. M. Smith, K. M. Kuhlman, A. Clark, and D. Dowell (2012): Progress and Challenges with Warn-on-Forecast. 26th Conference on Severe Local Storms, 5-8 November 2012, Nashville, TN, 7.1.
- Kosiba, K. A., J. Wurman, P. Robinson, C. Schwarz, D. W. Burgess, E. R. Mansell, and **D. T. Dawson II** (2012): Mobile radar observations and damage assessment of the 24 May 2011, Canton Lake, OK tornado. 92nd American Meteorological Society Annual Meeting, 22-26 January 2012, New Orleans, LA, P646.
- Kosiba, K. A., J. Wurman, P. Robinson, C. Schwarz, D. W. Burgess, E. R. Mansell, and **D. T. Dawson II** (2012): Mobile radar observations and damage assessment of the 24 May 2011, Canton Lake, OK tornado. 26th Conference on Severe Local Storms, 5-8 November 2012, Nashville, TN, P102.
- Wicker, L. J., E. R. Mansell, **D. T. Dawson II**, & D. Dowell (2011): Initial results from convective-scale analysis and prediction of the 14 June 2011 Norman Oklahoma macroburst using conventional and rapid-scan weather Doppler radar data. 6th European Conference on Severe Storms, 3-7 October 2011, Palma de Mallorca, Spain.

- Reeves, H. D., & **D. T. Dawson II** (2011): Numerical model forecast sensitivity to microphysical parameterization for lake effect snow. *14th Conference on Mesoscale Processes/15th Conference on Aviation, Range, and Aerospace Meteorology*, American Meteorological Society, Los Angeles, CA, 2.1.
- Wicker, L. J., E. Mansell, D. Dowell, & **D. T. Dawson II** (2010): High-resolution storm-scale numerical weather prediction using EnKF for the 8 May 2003 Moore Oklahoma tornadic supercell., *25th Conference on Severe Local Storms*, American Meteorological Society, Denver, CO, 12B.5.
- **Dawson, D. T., II**, & G. Romine (2010): A preliminary survey of DSD measurements collected during VORTEX2., *25th Conference on Severe Local Storms*, American Meteorological Society, Denver, CO, 8A.4.
- Wainwright, C., E., M. Xue^M, G. Zhang, & **D. T. Dawson II** (2009): Microphysics schemes based on DSD-parameter constraints and their impact on convective storm forecasts, *89th AMS Annual Meeting, 16th Conference on Satellite Meteorology and Oceanography*, American Meteorological Society, Phoenix, AZ, JP6.5.
- Bluestein, H. B., I. PopStefanija, V. Venkatesh, P. S. Tsai, R. L. Tanamachi, M. M. French, J. C. Snyder, J. Houser, **D. T. Dawson II**, C. Baldi, B. Seeger, S. J. Frasier, J. Knorr, & R. Bluth (2008): Severe-storm data collected in the Southern Plains by three mobile Doppler radars during the spring, 2007 and 2008, *24th Conference on Severe Local Storms*, American Meteorological Society, Savanna, GA, 5.3.
- **Dawson, D. T., II** (2008): High resolution real-data simulations of the 3 May 1999 tornadic storms with multi-moment microphysics, *24th Conference on Severe Local Storms*, American Meteorological Society, Savannah, GA, 14.7.
- **Dawson, D. T., II**, M. Xue, & J. A. Milbrandt (2008): Improvements in the treatment of evaporation and melting in multi-moment versus single-moment bulk microphysics: results from numerical simulations of the 3 May 1999 Oklahoma tornadic storms, *24th Conference on Severe Local Storms*, American Meteorological Society, Savannah, GA, 17B.4.
- Zhang, G., M. Xue, Q. Cao, & **D. T. Dawson II** (2007): Diagnosing the intercept parameter for exponential raindrop size distribution based on video disdrometer observations., *22nd Conference on Weather Analysis and Forecasting/18th Conference on Numerical Weather Prediction*, American Meteorological Society, Salt Lake City, UT, 10B.3.
- **Dawson, D. T., II**, M. Xue, J. A. Milbrandt, M. K. Yau, and G. Zhang (2007): Impact of multi-moment microphysics and model resolution on predicted cold pool and reflectivity intensity and structures in the Oklahoma tornadic supercell storms of 3 May 1999., *22nd Conference on Weather Analysis and Forecasting/18th Conference on Numerical Weather Prediction*, American Meteorological Society, Salt Lake City, UT, 10B.2.
- **Dawson, D. T., II**, M. Xue, & G. Zhang (2006): High resolution simulations of the 3 May 1999 Oklahoma tornado outbreak: impact of microphysics on cold pool intensity and storm morphology, *23rd Conference on Severe Local Storms*, American Meteorological Society, St. Louis, MO, 16.1.
- Snyder, J. C., **D. T. Dawson II**, & H. B. Bluestein (2006): Tornadoes associated with cold-core, closed 500mb lows: The 20 March 2006, northwestern Oklahoma tornadoes, *23rd Conference on Severe Local Storms*, American Meteorological Society, St. Louis, MO, P1.2.
- **Dawson, D. T., II**, & M. Xue (2005): Analysis of the development and evolution of the 15-16 June 2002 Southern Plains severe MCS through high-resolution numerical forecasts, *32nd*

Conference on Radar Meteorology/11th Conference on Mesoscale Processes, American Meteorological Society, Albuquerque, NM, P4M.1.

- **Dawson, D. T., II** & M. Xue (2004): Impact of mesoscale data, cloud analysis on the explicit prediction of a MCS during IHOP 2002, *20th Conference on Weather Analysis and Forecasting/16th Conference on Numerical Weather Prediction*, American Meteorological Society, Seattle, WA, P1.36.

Theses and Other Manuscripts

- **Dawson, Daniel T., II**, 2009: *Impacts of single- and multi-moment microphysics on numerical simulations of supercells and tornadoes of the 3 May 1999 Oklahoma tornado outbreak*. Ph.D. Dissertation, School of Meteorology, University of Oklahoma. 173pp.
- **Dawson, Daniel T., II**, 2004: *Numerical Forecasts of the 15-16 June 2002 Southern Plains Severe MCS: Impact of Mesoscale Data and Cloud Analysis*, M. S. Comprehensive Examination, School of Meteorology, University of Oklahoma, 49 pp.

SEMINARS AND INVITED TALKS

- 2021** Presentation, Klondike Elementary School, West Lafayette, Indiana: “Tornado facts and safety”
- 2021** DOCTSS Weather Briefing, Salina, Kansas (virtual, 12 July)
- 2021** “Observations, Numerical Simulations, and Prediction of Supercell Thunderstorms and Tornadoes,” *Environmental Fluid Dynamics Lecture Series, University of Notre Dame*, South Bend, Indiana, 09-28-21.
- 2020** “Q&A With A Storm Chaser,” Children’s Museum of Indianapolis. [Cancelled owing to COVID-19.]
- 2019** “Interactions between Microphysical and Dynamical Processes in Supercell Thunderstorms as Revealed through Observations and High-resolution Numerical Simulations”, *Department of Mathematical Sciences Colloquium, University of Wisconsin-Milwaukee*, Milwaukee, Wisconsin, 02-22-19.
- 2018** “Microphysical-dynamical interactions in supercell thunderstorms as revealed through high-resolution numerical simulations”, Kyungpook National University, Daegu, South Korea, 11-26-18
- 2018** “Microphysical-dynamical interactions in supercell thunderstorms as revealed through high-resolution numerical simulations”, National Institute for Meteorological Studies, Jeju Island, South Korea, 11-30-18
- 2018** “The 24 August 2016 Tornado Outbreak in Indiana”. 2018 Central Indiana Severe Weather Symposium, IUPUI, Indianapolis
- 2016** *28th Conf. on Severe Local Storms*, Portland, Oregon, American Meteorological Society: “Research Tools Tutorial” (convective-scale modeling section)
- 2016** “An Introduction to Tornado Science”, Public lecture, Imagination Station, Lafayette, Indiana.
- 2009** “The Impact of Single- And Multi-moment Microphysics on Numerical Simulations of Supercells And Tornadoes of The 3 May 1999 Oklahoma Tornado Outbreak”. Ph.D. Departmental Seminar, SoM, OU.
- 2008** “High-resolution numerical simulations of the 3 May 1999 tornadic supercell storms using multi-moment bulk microphysics: improvements over the single-moment approach”. MMM, NCAR.

2004 “Numerical Forecasts of the 15-16 June 2002 Southern Plains Severe MCS: Impact of Mesoscale Data and Cloud Analysis”. M.S. Departmental Seminar, SoM, OU.

MEMBERSHIPS AND PROFESSIONAL ACTIVITIES

Committee Service

2023 – present DELTA Planning Committee
2023 – present Undergraduate Committee (EAPS)
2022 – present Field Committee (EAPS)
2022 – present Alumni and Corporate Relations Committee, EAPS, Purdue
2020 – present PERiLS Planning Committee
2020 – 2022 Outreach Committee, EAPS
2019 – 2021 Undergraduate Committee, EAPS
2018 – 2019 Planetary Atmospheres and Physics Faculty Search Committee, EAPS
2018 – 2019 Alumni and Corporate Relations Committee, EAPS, Purdue
2018 – present Non-Classic Tornadoic Storms Field Program Planning Committee
2017 – present LowCAPE Field Program Planning Committee
2017 Program Committee, 38th Conference on Radar Meteorology
2016 Program Committee, 28th Conference on Severe Local Storms
2016 – present VORTEX-SE Scientific Steering Committee
2015 – 2018 Graduate Committee, EAPS, Purdue.
2015 – 2021 Computing Committee, EAPS, Purdue
2014 Program Committee, 27th Conference on Severe Local Storms

Field Operations

2024 PI participant in the NOAA DELTA field campaign
2022 – 2023 PI participant in the joint NSF/NOAA PERiLS field campaign
2019, 2022 *Ad hoc* participant with EAPS SPOTTR course in TORUS field campaign
2017 Participant with joint Purdue/NSSL/OU field operations in Hurricane Irma; in situ observations with portable instrumented probes
2016 – 2017 PI participant in VORTEX-SE; in situ observations with portable instrumented probes.
2012 Participant in Deep Convective Clouds and Chemistry (DC3) field operations with NSSL
2011 Participant in local storm field operations with NSSL
2010 Participant in VORTEX2 (mobile mesonet and disdrometer probes) with Glen Romine of NCAR
2009 Volunteer Driver for University of Massachusetts (UMASS) X-pol radar truck in support of VORTEX2 operations
2004 – 2008 Volunteer driver, navigator, logistics, and backup operator for Dr. Howard Bluestein during several severe convective storm intercepts with mobile Doppler radars.
2003 – 2004 Volunteer driver, navigator, logistics, and backup operator for Dr. Joshua Wurman of Center for Severe Weather Research (CSWR) during a Doppler on Wheels research mission into Hurricanes Isabel (2003) and Frances (2004).

Peer Review Activity

2016 – present Associate Editor, *Monthly Weather Review*

- Reviewer for *Monthly Weather Review*, *Journal of Applied Meteorology and Climatology*, *Journal of the Atmospheric Sciences*, *Journal of Geophysical Research: Atmospheres*, *Atmospheric Research*, *Electronic Journal of Severe Storms Meteorology*, *Weather and Forecasting*, *Advances in Atmospheric Science*, *Journal of Atmospheric and Oceanic Technology*, *Geophysical Research Letters*
- Proposal reviewer for NSF, National Aeronautics and Space Administration (NASA), Department of Energy/Atmospheric Systems Research (DOE/ASR), and the German Research Foundation (Deutsche Forschungsgemeinschaft)

Other Professional Services

2022 Session Chair, 30th Conference on Severe Local Storms
2019 Session Chair, 99th AMS Annual Meeting
2017 Session Chair, 38th Conference on Radar Meteorology
2016 Session Chair, 28th Conference on Severe Local Storms
2015 Session Chair, 37th Conference on Radar Meteorology
2014 Storm Video Night Co-chair, 27th Conference on Severe Local Storms.
2014 Session Chair, 27th Conference on Severe Local Storms
2012 Storm Video Night Co-chair, 26th Conference on Severe Local Storms.
2012 Session Chair, 26th Conference on Severe Local Storms
2010 Storm Video Night Co-chair, 25th Conference on Severe Local Storms.

SELECTED HONORS AND AWARDS

2022 NSF CAREER Award
2012 – 2014 NSF Atmospheric and Geospace Sciences Postdoctoral Research Fellowship (AGS-PRF), awarded at NSSL. Title: “*Impacts of Microphysics and Cold Pool Thermodynamics on Supercell Tornadogenesis: Comparisons of Numerical Simulations with VORTEX2 Observations*”. Award transferred to the Center for Analysis and Prediction of Storms for **2014**.
2009 – 2011 National Research Council (NRC) Postdoctoral Fellowship, Awarded at NSSL.
2005 – 2007 NSF Graduate Research Fellowship, awarded at OU.
2002 – 2005 National Defense Science and Engineering Graduate (NDSEG) Fellowship, American Society for Engineering Education (ASEE), awarded at OU.
2002 American Meteorological Society (AMS) Graduate Fellowship (awarded but declined due to time overlap with NDSEG/NSF Fellowship).
2002 – 2007 Alumni Fellowship, awarded at OU

PROFESSIONAL MEMBERSHIP INFORMATION

- American Meteorological Society
- American Geophysical Union
- Phi Beta Kappa and Phi Kappa Phi Honor Societies