**Morgan E. Schneider**

*She/Her*

University of Oklahoma

Cooperative Institute for Severe and High-Impact Weather Research and Operations

NOAA/OAR National Severe Storms Laboratory

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# Research Interests

* Severe convective storms
* Radar meteorology
* Observations and instrumentation
* Storm-scale modeling
* Planetary boundary layer (PBL) processes

# Education

Exp. 2025 **Ph.D. Meteorology**

*University of Oklahoma*

Dissertation:

Advisors: Dr. Matthew Flournoy, Dr. Michael Coniglio

2021 **M.S. Meteorology**

*University of Oklahoma*

Thesis: Quantifying and Mitigating Debris-Induced Bias in Radar Measurements of Tornadic Winds

Advisors: Dr. David Bodine, Dr. Robert Palmer

2019 **B.S. Meteorology** Summa Cum Laude

*University of Oklahoma*

Minors: Electrical and Computer Engineering, Mathematics

# Professional Experience

2021–Present**Graduate Research Assistant**

*University of Oklahoma/Cooperative Institute for Severe and High-Impact Weather Research and Operations/National Severe Storms Laboratory*

Advisors: Dr. Matthew Flournoy, Dr. Michael Coniglio

* Used high-resolution idealized numerical simulations to study the dynamics of QLCS-supercell mergers.
* Planned and led RaXPol data collection as a funded PI on the PERiLS and DELTA field campaigns.

2019–2021 **Graduate Research Assistant**

*University of Oklahoma/Advanced Radar Research Center*

Advisors: Dr. David Bodine, Dr. Robert Palmer

* Studied relationships between debris characteristics and centrifuging bias in tornadic Doppler velocities.
* Developed a novel signal processing technique to reduce debris centrifuging velocity bias.

2017–2019 **Undergraduate Research Assistant**

*University of Oklahoma/Advanced Radar Research Center*

Advisor: Dr. Phillip Chilson

* Calculated estimates of the temperature structure function parameter to quantify boundary layer turbulence using UAS in situ observations.

2018 **Ernest F. Hollings Undergraduate Scholar**

*NOAA Office of Education*

Advisors: Dr. Patrick Alken, Dr. Arnaud Chulliat

2016–2018 **Student Data Quality Analyst**

*Cooperative Institute for Mesoscale Meteorological Studies*

# Refereed Publications

## Lead Author

Schneider, M. E., D. J. Bodine, R. D. Palmer, S. M. Torres, B. Cheong, C. J. Fulton, C. B. Griffin, and T. Maruyama, 2025: A

novel technique to correct debris centrifuging bias in Doppler velocity measurements from tornadoes. *J. Atmos. Oceanic Technol.*, in revision.

## Coauthor

Kosiba, K. A., and Coauthors, 2024: The Propagation, Evolution, and Rotation in Linear Storms (PERiLS) project. *Bull. Amer.*

*Meteor. Soc.*, 105, E1768–E1799, https://doi.org/10.1175/BAMS-D-22-0064.1.

## In preparation

Schneider, M. E., M. D. Flournoy, and M. C. Coniglio, 2025: Mesovortex evolution in a simulated QLCS-supercell merger.

*Mon. Wea. Rev.*, in preparation.

# Conference Presentations

## Lead Author

Schneider, M. E., E. N. Rasmussen, D. J. Bodine, M. D. Flournoy, M. C. Coniglio, A. W. Lyza, and S. M. Waugh, 2024: Rapid-

scan radar observations of a QLCS mesovortex during PERiLS 2023. *31st Conf. on Severe Local Storms*, Virginia Beach, VA, Amer. Meteor. Soc., P.62, https://ams.confex.com/ams/31SLS/meetingapp.cgi/Paper/444974.

Schneider, M. E., M. D. Flournoy, and M. C. Coniglio, 2024: The genesis and evolution of mesovortices in idealized

simulations of a QLCS-supercell merger. *31st Conf. on Severe Local Storms*, Virginia Beach, VA, Amer. Meteor. Soc., 9.6, https://ams.confex.com/ams/31SLS/meetingapp.cgi/Paper/444972.

Schneider, M. E., D. J. Bodine, B. Cheong, and D. Schvartzman, 2023: Rapid-scan radar observations of two QLCSs during

the PERiLS 2023 field campaign. *40th Conf. on Radar Meteorology*, Minneapolis, MN, Amer. Meteor. Soc., P.102, https://ams.confex.com/ams/40RADAR/meetingapp.cgi/Paper/426268.

Schneider, M. E., D. J. Bodine, R. D. Palmer, S. M. Torres, B. Cheong, C. J. Fulton, C. B. Griffin, H. B. Bluestein, and R. N.

Cross, 2023: A novel technique to correct debris centrifuging bias in Doppler velocity measurements of tornadoes. *40th Conf. on Radar Meteorology*, Minneapolis, MN, Amer. Meteor. Soc., 15B.2, https://ams.confex.com/ams/40RADAR/meetingapp.cgi/Paper/426258.

Schneider, M. E., D. J. Bodine, R. D. Palmer, S. M. Torres, B. Cheong, C. J. Fulton, C. B. Griffin, H. B. Bluestein, R. N. Cross,

and J. Lujan, 2022: Mitigating the effects of debris on Doppler velocity measurements in tornadoes. *30th Conf. on Severe Local Storms*, Santa Fe, NM, Amer. Meteor. Soc., P.120, https://ams.confex.com/ams/30SLS/meetingapp.cgi/Paper/376163.

Schneider, M. E., D. J. Bodine, S. M. Torres, R. D. Palmer, B. Cheong, C. J. Fulton, C. B. Griffin, R. N. Cross, H. B. Bluestein, T.

Maruyama, and J. Lujan, 2022: The mitigation of debris-induced bias in tornadic Doppler velocity measurements. *11th European Conf. on Radar in Meteorology and Hydrology*, Locarno, Switzerland, MeteoSwiss, RSP.P9.

Schneider, M. E., D. J. Bodine, S. M. Torres, R. D. Palmer, B. Cheong, C. J. Fulton, C. B. Griffin, H. B. Bluestein, T. Maruyama,

R. N. Cross, and J. Lujan, 2022: A novel technique to correct debris-related bias in velocity measurements from tornadoes. *38th Conf. on Environmental Information Processing Technologies,* Virtual, Amer. Meteor. Soc., 6B.5, https://ams.confex.com/ams/102ANNUAL/meetingapp.cgi/Paper/391681.

Schneider, M. E., D. J. Bodine, S. M. Torres, H. B. Bluestein, R. D. Palmer, B. Cheong, C. J. Fulton, and J. Lujan, 2021:

Quantifying debris-related bias in tornado wind velocity measurements. *37th Conf. on Environmental Information Processing Technologies,* Virtual, Amer. Meteor. Soc., 10.7, https://ams.confex.com/ams/101ANNUAL/meetingapp.cgi/Paper/379715.

Schneider, M. E., P. Alken, and A. Chulliat, 2019: Modeling the 3-D geomagnetic field using satellite scalar field

observations. *9th Conf. on Transition of Research to Operations,* Phoenix, AZ, Amer. Meteor. Soc., J4.3, https://ams.confex.com/ams/2019Annual/webprogram/Paper350035.html.

Schneider, M. E., and P. B. Chilson, 2018: Estimation and evaluation of atmospheric CT2 using small unmanned aerial

systems. *17th Annual Student Conf.,* Austin, TX, Amer. Meteor. Soc., S139, https://ams.confex.com/ams/98Annual/webprogram/Paper338258.html.

## Collaborator

Cross, R. N., D. J. Bodine, B. Cheong, R. D. Palmer, C. J. Fulton, S. M. Torres, C. B. Griffin, M. E. Schneider, J. Lujan, and T.

Maruyama, 2022: A radar simulation and large-eddy simulation approach to exploring observational tornado debris signature hypotheses. *30th Conf. on Severe Local Storms*, Santa Fe, NM, Amer. Meteor. Soc., 17.4A, https://ams.confex.com/ams/30SLS/meetingapp.cgi/Paper/407247.

Cross, R. N., D. J. Bodine, B. Cheong, R. D. Palmer, C. J. Fulton, S. M. Torres, C. B. Griffin, M. E. Schneider, T. Maruyama,

and J. Lujan, 2022: Analyzing observational tornado debris signature hypotheses using radar simulations and large-eddy simulations. *38th Conf. on Environmental Information Processing Technologies,* Virtual, Amer. Meteor. Soc., 6B.4, https://ams.confex.com/ams/102ANNUAL/meetingapp.cgi/Paper/394331.

# Professional Training

2022–2024 **2021 Fieldwork Toolkit Leadership Training Series**

*University of California-Riverside*

A 4-part training course to prepare researchers for confronting and preventing workplace harassment, exclusion, and discrimination in fieldwork settings. The training addresses various forms of workplace discrimination, how to address discrimination and harassment, and how to create and maintain an inclusive workplace culture. Participated every year during 2022–2024. Covers the following workshops:

* Creating, Enforcing, and Promoting Safe Fieldwork Culture: Strategies Aimed at Protecting Diverse Researchers
* Building a Better Fieldwork Culture Workshop: Preventing Harassment and Assault in the Field
* Risk Management and Strategies in Field Settings
* Mental Health in the Field: Best Practices and Pitfalls

2020 **Unlearning Series**

*Office of Diversity and Inclusion, University of Oklahoma*

A 5-part training course for promoting awareness and inclusion in academic classrooms and workplaces. Covers the following workshops: Unlearning Sexism, Unlearning Ableism, Unlearning Classism, Unlearning Racism, and Unlearning Trans + Homonegativity.

2018 **Remote Pilot: Uncrewed Aircraft Systems (UAS)**

*Federal Aviation Administration*

Preparation for a Part 107 license for commercial UAS operation. Covers fundamental aviation topics and airspace regulations.

2016 **LGBTQ+ Ally Training**

*Office of Diversity and Inclusion, University of Oklahoma*

Provides knowledge and skills to support and advocate for the respect, inclusion, and equal treatment of those with marginalized sexual and gender identities.

2016 **Active Bystander Training**

*Office of Diversity and Inclusion, University of Oklahoma*

A one-day workshop for active bystander training and safety. Provides strategies and techniques for intervention and de-escalation to prevent conflict.

# Grants Awarded

2023 **Rapid-scan radar observations of mesovortices in Southeastern linear storms** ($119,769)

*NOAA Office of Atmospheric Research*

Principal investigator: Morgan Schneider

Co-investigators: David Bodine, Boonleng Cheong, David Schvartzman

2020 **Graduate Research Fellowship** ($138,000)

*National Science Foundation*

Principal investigator: Morgan Schneider

# Professional Awards & Honors

2024 **Richard J. Doviak Award**, *University of Oklahoma School of Meteorology*

2022 **Outstanding Teaching Assistant**, *University of Oklahoma School of Meteorology*

2020 **Graduate Research Fellowship**, *National Science Foundation*

2020 **Provost’s Certificate of Distinction in Teaching**, *University of Oklahoma*

2019 **Graduate Research Fellowship Honorable Mention**, *National Science Foundation*

2019 **Best Student Oral Presentation Honorable Mention**, *American Meteorological Society*

2019 **Undergraduate Academic Achievement Award**, *University of Oklahoma School of Meteorology*

2018 **Outstanding Senior**, *University of Oklahoma College of Atmospheric and Geographic Sciences*

2018 **John W. Nichols Trailblazer Scholarship**, *University of Oklahoma School of Meteorology*

2018 **Om and Saraswati Bahethi Senior Scholarship**, *American Meteorological Society*

2017 **Ernest F. Hollings Undergraduate Scholarship**, *NOAA Office of Education*

2017 **Eric Nguyen Memorial Endowed Scholarship**, *University of Oklahoma School of Meteorology*

2015–2019 **President’s Honor Roll**, *University of Oklahoma*

2015–2019 **Dean’s Honor Roll**, *University of Oklahoma College of Atmospheric and Geographic Sciences*

2015 **National Merit Scholarship**, *University of Oklahoma*

# Mentoring & Service

2022 **Research Experience for Undergraduates (REU) mentor**, *University of Oklahoma* *School of Meteorology*

* Student: Kyndra Buglione
* Project: Examining the Potential of ZDR Columns to Predict Tornado Formation and Intensity in Quasi-Linear Convective Systems

2020 **Undergraduate Research Day presentation judge**, *University of Oklahoma Honors College*

2020 **Visiting Student Weekend volunteer**, *University of Oklahoma School of Meteorology*

2019–2020 **National Weather Festival volunteer**, *Advanced Radar Research Center*

2017–2019 **Freshman peer mentor**, *University of Oklahoma School of Meteorology*

2017 **Oklahoma Weather Lab Director of Development**, *University of Oklahoma School of Meteorology*

2016–2019 **Oklahoma Weather Lab Forecast Shift Leader**, *University of Oklahoma School of Meteorology*

# Teaching Experience

2020–2022**Teaching assistant**, *University of Oklahoma*

* Course: METR 4433 Mesoscale Meteorology
* Graded student assignments, quizzes, and exams
* Designed and taught lectures on radar meteorology for storm-scale forecasting applications

# Field Experience

2024 **Low-Level Internal Flows in Tornadoes (LIFT)**

Roles: Mobile mesonet operator

2024 **Detecting and Evaluating Low-Level Tornado Attributes (DELTA)**

Roles: Principal investigator, instrument lead, mobile radar operator

2022–2023 **Propagation, Evolution, and Rotation in Linear Storms (PERiLS)**

Roles: Principal investigator, instrument lead, mobile radar operator

2019–2023 **Targeted Observations by Radar and UAS of Supercells (TORUS)**

Roles: Mobile mesonet operator, windsonde field lead, mobile radar operator

2017 **Collaboration Leading Operational UAS Development for Meteorology and Atmospheric Physics**

**(CLOUD-MAP)**

Roles: UAS ground station operator, visual observer

2017 **Environmental Profiling and Initiation of Convection (EPIC)**

Roles: UAS ground station operator, visual observer

# Professional Memberships

2017–Present American Meteorological Society

2019–Present Phi Beta Kappa Honor Society

# Technical Skills

**Advanced** Python, MATLAB, Microsoft Word, Microsoft PowerPoint, Microsoft Excel

**Intermediate** LaTeX, Unix, Git

**Beginner** C, FORTRAN, HPC, uncrewed aircraft system (UAS) operation