Kara Jo Sulia
Curriculum Vita

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Education:

B.S.	Computer Science	University at Albany	In Progress
Ph.D.	Meteorology	Penn State University University Park, PA	August 2013
B.S.	Meteorology	Penn State University University Park, PA	December 2009

Professional Experience:

Nov 2023 - Present	Associate Director, Atmospheric Sciences Research Center, University at Albany, State University of New York
Sept 2014 - Present	Research Associate, Atmospheric Sciences Research Center, University at Albany, State University of New York
Sept 2013 - Aug 2014	Postdoctoral Research Associate, NOAA/Geophysical Fluid Dynamics Laboratory, Atmospheric and Oceanic Sciences, Princeton University
Jan. 2010 - Aug 2013	Graduate Research Assistant, Department of Meteorology, Penn State University
May – August 2009	NSF Research Experience for Undergraduate Internship, Department of Meteorology, Penn State University
Fall 2008 – Dec 2009	Undergraduate Independent Research, Department of Meteorology, Penn State University
June – August 2008	DEVELOP Undergraduate Research Assistant, NASA Goddard Space Flight Center

Professional Activities:

2023 - Present	Manager, ASRC IT
2022 - Present	Co-Principal Investigator, CHGE-funded award, *Estimated Time of Repair Project*
2020 - Present	Research Team Leads Committee, ASRC
2020 - Present	Contributing Investigator, NSF Funded Award, *AI Institute: Artificial Intelligence for Environmental Sciences (AI2ES)*
2020 - Present	Principal Investigator, DOE-funded award, *Classification of Cloud Particle Imagery and Thermodynamics (COCPIT): A New Databasing Tool for the Characterization of Cloud Particle Images Captured During DOE Field Campaigns*
2020 - Present	Co-Principal Investigator, NYSERDA-funded award, *Using NYS Mesonet Data For ISM-Based Renewable, Load, and Outage Forecasts*
2019 - Present	Director, xCITE Laboratory
2019 - Present	Member, American Meteorological Society Cloud Physics Committee
2019 - Present	Member, New York State Mesonet Advisory Board
2017 - 2019	Science and Innovation Lead, ASRC ExTreme Collaboration, Innovation, and Technology (xCITE) Laboratory
2017 - Present	Member, ASRC High-Performance Computing Steering Committee

2016 - 2020	Principal Investigator, DOE-funded award, *Investigating the Evolution of Ice Particle Distributions in Mixed-Phase Clouds*
2015 - 2021	Contributing Investigator, NSF-funded US-Taiwan PIRE: *Building Extreme Weather Resiliency Through Improved Weather and Climate Prediction and Emergency Response Strategies*
2014 - Present	Chair, ASRC Graduate Recruitment/Fellowship Committee
August 2014	National Science Foundation Outreach Program, Barrow, AK
January - Feb 2012	National Center for Atmospheric Research Visitor Program – Dr. Hugh Morrison

Selected Publications: **Advising Student*

Wirz, C.D., Sutter, C., Demuth, J. L., Mayer, K. J., Chapman, W. E., Cains, M. G., Radford, J., Przybylo, V., Evans, A., Martin, T., Gaudet, L. C., Sulia, K., Bostrom, A., Gagne, D. J., Bassill, N., Schumacher, A., and Thorncroft, C, 2024. Increasing the reproducibility, replicability, and evaluability of supervised AI/ML in the earth systems science by leveraging social science methods. *Earth and Space Science*, 11 (7), 10.1029/2023EA003364.

*Gaudet, L, K. J. Sulia, Ryan D. Torn, and Nick P. Bassill, 2024: Verification of the Global Forecast System, North American Mesoscale Forecast System, and High-Resolution Rapid Refresh Model Near-Surface Forecasts by use of the New York State Mesonet. *Weather and Forecasting*, 39 (2), 10.1175/WAF-D-23-0094.1.

*Przybylo, V, K. J. Sulia, Z. Lebo, and C G. Schmitt, 2022: The Ice Particle and Aggregate Simulator (IPAS). Part III: Verification and Analysis of Ice-Aggregate and Aggregate-Aggregate Collection for Microphysical Parameterization. *J. Atmos. Sci.*, 79 (6), 1651-1667, 10.1175/JAS-D-21-0180.1.

*Przybylo, V, K. J. Sulia, Z. Lebo, and C G. Schmitt, 2022: The Ice Particle and Aggregate Simulator (IPAS). Part II: Analysis of a Database of Theoretical Aggregates for Microphysical Parameterization. *J. Atmos. Sci*, 79 (6), 1633-1649, 10.1175/JAS-D-21-0179.1.

*Przybylo, V, K. J. Sulia, C G. Schmitt, and Z. Lebo, 2022: Classification of Cloud Particle Imagery from Aircraft Platforms Using Convolutional Neural Networks. *J. Atmos. Oceanic Tech.*, 39, 405-424, 10.1175/JTECH-D-21-0094.1.

*Gaudet, L, K. J. Sulia, T.-C. Tsai, J.-P. Chen, J. P. Blair, 2021: Assessment of a Microphysical Ensemble Used to Investigate the OWLeS IOP4 Lake-Effect Storm. *J. Atmos. Sci.*, 78 (5), 1607-1628, 10.1175/JAS-D-20-0045.1.

Sulia, K. J., Z. J. Lebo, *V. Przybylo, and C. G. Schmitt, 2021: A new method for ice-ice aggregation in the Adaptive Habit Model. *J. Atmos. Sci.*, 78, 133-154, 10.1175/JAS-D-20-0020.1.

Schmitt, C. G., K. J. Sulia, Z. J. Lebo, A. J. Heymsfield, *V. Przybylo, P. Connolly, 2019: The variability of the terminal velocity of similarly sized ice particles. *J. Appli. Met. Climatol.*, 58, 1751-1761, 10.1175/JAMC-D-18-0291.1.

*Gaudet, L, K. J. Sulia, F. Yu, and G. Luo, 2019: Sensitivity of Lake-Effect Cloud Microphysical Processes to Ice Crystal Habit and Nucleation during OWLeS IOP4. *J. Atmos. Sci.*, 76, 3411-3434, 10.1175/JAS-D-19-0004.1

*Przybylo, V, K. J. Sulia, C G. Schmitt, and Z. Lebo, 2019: The Ice Particle and Aggregate Simulator (IPAS). Part I: Extracting dimensional properties of ice-ice aggregates for microphysical parameterization. *J. Atmos. Sci.*, 76, 1661-1676, 10.1175/JAS-D-18-0187.1

Sulia, K. J. and M. R. Kumjian, 2017: Simulated Polarimetric Fields of Ice Vapor Growth Using the Adaptive Habit Model. Part I: Large-Eddy Simulations. *Mon. Wea. Rev.*, 145, 2281-2302, 10.1175/MWR-D-16-0061.1.

Sulia, K. J. and M. R. Kumjian, 2017: Simulated Polarimetric Fields of Ice Vapor Growth Using the Adaptive Habit Model. Part II: A Case Study from the FROST Experiment. *Mon. Wea. Rev.*, 145, 2303-2323, 10.1175/MWR-D-16-0062.1.

Sulia, K., J.Y. Harrington, and H. Morrison, 2014: Dynamical and microphysical evolution during mixed-phase cloud glaciation simulated using the bulk adaptive habit prediction model. *Journal of the*

Atmospheric Sciences, early online release, 10.1175/JAS-D-14-0070.1.

Sulia, K., J. Y. Harrington, and H. Morrison, 2013: A method for adaptive habit prediction in bulk microphysical models: Part III: Applications and studies within a two-dimensional kinematic model. *Journal of the Atmospheric Sciences*, 70 (10), 3302-3320, 10.1175/JAS-D-12-0316.1.

Harrington, J. Y., K. Sulia, and H. Morrison, 2013: A method for adaptive habit prediction in bulk microphysical models: Part I: Theoretical Development. *Journal of the Atmospheric Sciences*, 70 (2), 349-364, 10.1175/JAS-D-12-0040.1.

Sulia, K. and J. Y. Harrington, 2011: Ice Aspect Ratio Influences on Mixed-Phase Clouds. Impacts of Phase Partitioning in Parcel Models. *Journal of Geophysical Research*, 116, D21309, 10.1029/2011JD016298.