

## KRISTEN L. CORBOSIERO

University at Albany / State University of New York  
Department of Atmospheric and Environmental Sciences

### **EDUCATION**

University at Albany, PhD, Atmospheric Science, May 2005

Thesis: *The structure and evolution of a hurricane in vertical wind shear: Hurricane Elena (1985)*

Advisor: Dr. John Molinari

University at Albany, MS, Atmospheric Science, August 2000

Thesis: *The effects of vertical wind shear and storm motion on the distribution of lightning in tropical cyclones*

Advisors: Dr. John Molinari and Dr. Vincent Idone

Cornell University, BS with Distinction, Soil, Crop, and Atmospheric Science, May 1997

### **EDUCATIONAL EMPLOYMENT**

Full Professor, University at Albany, February 2025–Present

Associate Professor, University at Albany, September 2017–January 2025

Assistant Professor, University at Albany, August 2011–August 2017

Assistant Professor, University of California Los Angeles, August 2007–July 2011

Advanced Study Program Postdoctoral Fellow, National Center for Atmospheric Research,  
August 2005–August 2007

### **PUBLICATIONS** (\* indicates student; h-index = 29, i10-index = 38)

#### **In Preparation**

Corbosiero, K. L., R. A. Lazear, and M. Schiede\*, 2025: Verification of thunderstorm occurrence using the National Lightning Detection Network. To be submitted to *Wea. Forecasting*.

Corbosiero, K. L., R. A. Lazear, D. Card\*, and T. Ryan\*, 2025: Precipitation events associated with terrain-generated convergence in the Mohawk and Hudson River valleys of New York. To be submitted to *Wea. Forecasting*.

Piersante, J. O.\*, K. L. Corbosiero, and R. G. Fovell, 2025: Simulated diurnal pulses in Hurricane Dorian (2019). To be submitted to *Wea. Forecasting*.

#### **Refereed Articles**

Johnson, N. E.\*, B. H. Tang, and K. L. Corbosiero, 2025: A comparison of methods for estimating vertical wind from dropsondes. Submitted to *J. Atmos. Oceanic Technol.*.

Johnson, N. E.\*, B. H. Tang, and K. L. Corbosiero, 2025: Observed downdrafts and ventilation during the rapid intensity changes of Hurricane Delta (2020). *J. Geophys. Res. Atmospheres*, **130**, e2024JD042915, <https://doi.org/10.1029/2024JD042915>.

Piersante, J. O.\*, K. L. Corbosiero, and R. G. Fovell, 2023: Simulated diurnal pulses in Hurricane Dorian (2019). *Mon. Wea. Rev.*, **151**, 2869–2882.

Rivera-Torres, N.\*, K. L. Corbosiero, and B. H. Tang, 2023: Factors associated with the downshear reformation of tropical cyclones. *Mon. Wea. Rev.* **151**, 2717–2737.

- Filipiak, B. C.\*, N. Bassill, K. L. Corbosiero, A. L. Lang, and R. A. Lazear, 2023: Probabilistic forecasting methods of winter mixed precipitation events in New York State utilizing a random forest. *Art. Intell. Earth Sys.*, **2**, 1–17.
- Chen, X., C. Rozoff, R. Rogers, K. Corbosiero, D. Tao, J.-F. Gu, F. Judt, E. Hendricks, Y. Wang, M. Bell, D. Stern, K. Musgrave, J. Knaff, and J. Kaplan, 2023: Research advances on internal processes affecting tropical cyclone intensity change from 2018–2022. *Trop. Cyc. Res. Rev.*, **12**, 10–29.
- Zhang, X.\*, S. S. Ditchek, K. L. Corbosiero, and W. Xu, 2023: Global and regional characteristics of radially outward propagating tropical cyclone diurnal pulses. *J. Geophys. Res. Atmospheres*, **128**, e2022JD037660, <https://doi.org/10.1029/2022JD037660>.
- Fischer, M. S., P. D. Reasor, B. H. Tang, K. L. Corbosiero, R. D. Torn, and X. Chen, 2022: A tale of two vortex evolutions: Using a high-resolution ensemble to assess the impacts of ventilation on a tropical cyclone rapid intensification event. *Mon. Wea. Rev.*, **151**, 297–320.
- Schultz, D. M., J. Anderson, T. Benacchio, K. L. Corbosiero, M. D. Eastin, C. Evans, J. Gao, J. P. Hacker, D. Hodyss, D. Kleist, M. R. Kumjian, R. McTaggart-Cowan, Z. Meng, J. Minder, D. Posselt, P. Roundy, A. Rowe, M. Scheuerer, R. S. Schumacher, S. Trier, C. Weiss, 2022: How to be a more effective author. *Mon. Wea. Rev.*, **150**, 2819–2892.
- Alland, J. J.\*, B. H. Tang, K. L. Corbosiero, and G. H. Bryan, 2021a: Combined effects of midlevel dry air and vertical wind shear on tropical cyclone development. Part I: Downdraft ventilation. *J. Atmos. Sci.*, **78**, 763–782.
- Alland, J. J.\*, B. H. Tang, K. L. Corbosiero, and G. H. Bryan, 2021b: Combined effects of midlevel dry air and vertical wind shear on tropical cyclone development. Part II: Radial ventilation. *J. Atmos. Sci.*, **78**, 783–796.
- Smith, M. B.\*, R. Torn, K. Corbosiero, and P. Pegion, 2020: Ensemble variability in rainfall forecasts of Hurricane Irene (2011). *Wea. Forecasting*, **35**, 1761–1780.
- Ditchek, S. D.\*, K. L. Corbosiero, R. G. Fovell, and J. Molinari, 2020: Electrically-active pulses in Hurricane Harvey (2017). *Mon. Wea. Rev.*, **148**, 2283–2305.
- Schultz, D. M., A. Aksoy, J. Anderson, T. Benacchio, K. L. Corbosiero, M. D. Eastin, C. Evans, J. Gao, A. Gassmann, J. P. Hacker, D. Hodyss, M. R. Kumjian, R. McTaggart-Cowan, G. Romine, P. Roundy, A. Rowe, E. Satterfield, R. S. Schumacher, S. Trier, C. Weiss, H. P. Huntington, and G. M. Lackmann, 2020: Data availability principles and practice. *Mon. Wea. Rev.*, **148**, 4701–4702.
- Tymochko, S.\*, E. Munch, J. Dunion, K. Corbosiero, and R. Torn, 2020: Using persistent homology to quantify a diurnal cycle in hurricanes. *Patt. Recogn. Lett.*, **133**, 137–143.
- Nelson, T. C.\*, L. Harrison, and K. L. Corbosiero, 2020: Temporal and spatial autocorrelations from eXpendable digital dropsondes (XDDs) in tropical cyclones. *J. Atmos. Oceanic Technol.*, **37**, 381–399.
- Fischer, M. S.\*, B. H. Tang, and K. L. Corbosiero, 2019: A climatological analysis of tropical cyclone rapid intensification in environments of upper-tropospheric troughs. *Mon. Wea. Rev.*, **147**, 3693–3719.
- Ditchek, S. D.\*, K. L. Corbosiero, R. G. Fovell, and J. Molinari, 2019b: Electrically-active tropical cyclone diurnal pulses in the Atlantic Basin. *Mon. Wea. Rev.*, **147**, 3595–3607.

- Nelson, T. C.\*, L. Harrison, and K. L. Corbosiero, 2019: Convective asymmetries measured by eXpendable digital dropsondes (XDDs) in tropical cyclones. *Mon. Wea. Rev.*, **147**, 2367–2386.
- Ditchek, S. D.\*, J. Molinari, K. L. Corbosiero, and R. G. Fovell, 2019a: An objective climatology of tropical cyclone diurnal pulses in the Atlantic Basin. *Mon. Wea. Rev.*, **147**, 591–605.
- Fischer, M. S.\*, B. H. Tang, K. L. Corbosiero, and C. M. Rozoff, 2018: Normalized convective characteristics of tropical cyclone rapid intensification events in the North Atlantic and eastern North Pacific basins. *Mon. Wea. Rev.*, **146**, 1133–1155.
- Stevenson, S. N.\*, K. L. Corbosiero, M. DeMaria, and J. Vigh, 2018: A 10-year survey of tropical cyclone inner core lightning bursts and their relationship to intensity change. *Wea. Forecasting*, **33**, 23–36.
- Evans, C., and Coauthors, 2017: The extratropical transition of tropical cyclones: definition, structure, processes, direct impacts, and forecasting. *Mon. Wea. Rev.*, **145**, 4317–4344.
- Ditchek, S. D.\*, T. C. Nelson\*, M. Rosenmayer\*, and K. L. Corbosiero, 2017: The relationship between tropical cyclones at genesis and their maximum attained intensity. *J. Climate*, **30**, 4897–4913.
- Alland, J.\*, B. H. Tang, and K. L. Corbosiero, 2017: Effects of dry air aloft on the development of the tropical cyclone secondary circulation. *J. Atmos. Sci.*, **74**, 1455–1470.
- Bu, Y. P.\*, R. Fovell, and K. L. Corbosiero, 2017: The influences of boundary layer mixing and cloud-radiative forcing on tropical cyclone size. *J. Atmos. Sci.*, **74**, 1273–1292.
- Fischer, M. S.\*, B. H. Tang, and K. L. Corbosiero, 2017: Assessing the influence of upper-tropospheric troughs on tropical cyclone intensification rates after genesis. *Mon. Wea. Rev.*, **145**, 1295–1313.
- Tang, B., R. Rios-Berrios\*, J. Alland\*, J. Berman\*, and K. L. Corbosiero, 2016b: Sensitivity of axisymmetric tropical cyclone spin-up to dry air aloft. *J. Atmos. Sci.*, **73**, 4269–4287.
- Peirano, C. M.\*, K. L. Corbosiero, and B. H. Tang, 2016: Revisiting trough interactions and tropical cyclone intensity change. *Geophys. Res. Lett.*, **43**, doi: 10.1002/2016GL069040.
- Fovell, R. G., Y. P. Bu\*, K. L. Corbosiero, W.-W. Ten, Y. Cao\*, H.-C. Kuo, L.-H. Hsu\*, and H. Su, 2016: Influence of cloud microphysics and radiation on tropical cyclone structure and motion: A review., *Meteorol. Monographs*, **56**, 11.1–11.27.
- Tang, B., M. Vaughan\*, R. Lazear, K. Corbosiero, L. F. Bosart, T. A. Wasula, I. R. Lee, and K. S. Lipton, 2016a: Topographic and boundary influences on the 22 May 2014 Duanesburg, New York, tornadic supercell. *Wea. Forecasting*, **31**, 107–127.
- Stevenson, S. N.\*, K. L. Corbosiero, and S. F. Abarca, 2016: Lightning in eastern North Pacific tropical cyclones: A comparison to the North Atlantic. *Mon. Wea. Rev.*, **144**, 225–239.
- Stevenson, S. N.\*, K. L. Corbosiero, and J. Molinari, 2014: The convective evolution and rapid intensification of Hurricane Earl (2010). *Mon. Wea. Rev.*, **142**, 4363–4380.
- Bu, Y. P.\*, R. Fovell, and K. L. Corbosiero, 2014: Influence of cloud-radiative forcing on tropical cyclone structure. *J. Atmos. Sci.*, **71**, 1644–1662.
- Cao, Y.\*, R. G. Fovell, and K. L. Corbosiero, 2011: Tropical cyclone track sensitivity to initialization in idealized simulations: A preliminary study. *Terr. Atmos. Ocean. Sci.*, **22**, 559–578.

- Abarca, S. F.\*, and K. L. Corbosiero, 2011: Secondary eyewall formation in WRF simulations of hurricanes Rita and Katrina (2005). *Geophys. Res. Lett.*, **38**, doi:10.1029/2011GL047015.
- Abarca, S. F.\*, K. L. Corbosiero, and D. Vollaro, 2011: The World Wide Lightning Location Network and convective activity in tropical cyclones. *Mon. Wea. Rev.*, **139**, 175–191.
- Abarca, S. F.\*, K. L. Corbosiero, and T. J. Galarneau, Jr., 2010: An evaluation of the World Wide Lightning Location Network (WWLLN) using the National Lightning Detection Network (NLDN) as ground truth. *J. Geophys. Res.*, **115**, doi:10.1029/2009JD013411.
- Fovell, R. G., K. L. Corbosiero, A. Seifert, and K. N. Liou, 2010: Impact of cloud-radiative processes on hurricane track. *Geophys. Res. Lett.*, **37**, doi:10.1029/2010GL042691.
- Fovell, R. G., K. L. Corbosiero, and H.-C. Kuo, 2009: Cloud microphysics impact on hurricane track as revealed in idealized experiments. *J. Atmos. Sci.*, **66**, 1764–1778.
- Corbosiero, K. L., M. J. Dickinson, and L. F. Bosart, 2009: The contribution of eastern North Pacific tropical cyclones to the warm season rainfall climatology of the southwest United States. *Mon. Wea. Rev.*, **137**, 2415–2435.
- Davis, C., W. Wang, S. S. Chen, Y. Chen, K. Corbosiero, M. DeMaria, J. Dudhia, G. Holland, J. Klemp, J. Michalakes, H. Reeves, R. Rotunno, and Q. Xiao, 2008: Prediction of landfalling hurricanes with the Advanced Hurricane WRF Model. *Mon. Wea. Rev.*, **136**, 1990–2005.
- Molinari, J., P. Dodge, D. Vollaro, K. L. Corbosiero, and F. D. Marks, Jr., 2006: Mesoscale aspects of the downshear reformation of a tropical cyclone. *J. Atmos. Sci.*, **63**, 341–354.
- Corbosiero, K. L., J. Molinari, A. R. Aiyyer, and M. L. Black, 2006: The structure and evolution of Hurricane Elena (1985). Part II: Convective asymmetries and evidence for vortex Rossby waves. *Mon. Wea. Rev.*, **134**, 3073–3091.
- Corbosiero, K. L., J. Molinari, and M. L. Black, 2005: The structure and evolution of Hurricane Elena (1985). Part I: Symmetric intensification. *Mon. Wea. Rev.*, **133**, 2905–2921.
- Molinari, J., D. Vollaro, and K. L. Corbosiero, 2004: Tropical cyclone formation in a sheared environment: A case study. *J. Atmos. Sci.*, **61**, 2493–2509.
- Corbosiero, K. L., and J. Molinari, 2003: The relationship between storm motion, vertical wind shear, and convective asymmetries in tropical cyclones. *J. Atmos. Sci.*, **60**, 366–376.
- Corbosiero, K. L., and J. Molinari, 2002: The effect of vertical wind shear on the distribution of convection in tropical cyclones. *Mon. Wea. Rev.*, **130**, 2110–2123.

### **Unrefereed Articles**

- Corbosiero, K. L., 2004: The structure and evolution of a hurricane in vertical wind shear: Hurricane Elena (1985). Preprints of the 26<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, American Meteorological Society, 90–91.
- Corbosiero, K. L., 2002: The relationship between storm motion, vertical wind shear, and convective asymmetries in tropical cyclones. Preprints of the 25<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, American Meteorological Society, 321–322.
- Corbosiero, K. L., J. Molinari, and L. Bosart, 2001: The distribution of convective precipitation in tropical cyclones after landfall. Preprints of the 81<sup>st</sup> Annual Meeting of the American Meteorological Society, Symposium on Precipitation Extremes: Prediction, Impacts, and Responses, American Meteorological Society, 350–351.

Corbosiero, K. L., 2000: Convective asymmetries in tropical cyclones. Preprints of the 24<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, American Meteorological Society, 410–411.

Corbosiero, K. L., 1999: Lightning in hurricanes. Preprints of the 23<sup>rd</sup> Conference on Hurricanes and Tropical Meteorology, American Meteorological Society, 66–67.

### **GRANT FUNDING**

Evaluation of the Weather Types and Predictability Associated with Heavy Northeast U.S. Precipitation, University of California San Diego/U.S. Army Corps of Engineers, 15 August 2024–14 August 2026, \$150,000. (Co-PI with PI Dr. Ryan Torn)

Measuring Ventilation in Tropical Cyclones using NASA Observations, NASA ROSES 2022 A22: Weather and Atmospheric Dynamics, 7/19/2023–7/18/2026, \$225,00. (Co-PI with Dr. Brian Tang)

Improving Seasonal and Sub-Seasonal Hurricane Forecast Skill for the Tropical Atlantic (Phase 2), Aeolus Capital Management, 4/1/2023–12/31/2023, \$100,000. (Co-PI with Dr. Robert Fovell)

Downshear Reformation of Tropical Cyclones, NSF, 8/1/2022–7/31/2026, \$708,725. (Co-PI with Dr. Brian Tang)

The Governing Dynamics and Predictability of Recurving Eastern North Pacific Tropical Cyclones, NSF, 7/1/2022–6/31/2026, \$533,186. (Co-PI with Dr. Lance Bosart)

Improving Season and Sub-Seasonal Hurricane Forecast Skill for the Tropical Atlantic (2022), Aeolus Capital Management, 6/1/2022–12/31/2022, \$100,000. (Co-PI with Dr. Robert Fovell and co-PI Dr. Lance Bosart)

Improving Analyses, Numerical Models, and Situational Awareness of High-Impact Severe Convective and Mixed-Phase Precipitation Events in Complex Terrain, NOAA-NWS-NWSPO-2019-2005754: Collaborative Science, Technology, and Applied Research (CSTAR) Program, 6/1/2019–5/31/2024, \$450,000. (PI with co-PIs Dr. Nicholas Bassill, Dr. Andrea Lang, Dr. Robert Fovell, Dr. Justin Minder, Dr. Brian Tang)

Investigating Ventilation Processes and Effects on Tropical Cyclones, NSF, 2/16/2018–2/25/2023, \$397,626. (Co-PI with Dr. Brian Tang)

Investigating Tropical Cyclone Intensity Change due to Trough-Induced Vertical Wind Shear, NASA ROSES 2016 A23: Weather and Atmospheric Dynamics, Hurricane Science Research, 2/24/2017–2/23/2022, \$299,997. (PI with co-PI Dr. Brian Tang)

Physics and Dynamics of the Tropical Cyclone Cirrus Canopy, NSF, 2/24/2017–3/31/2022, \$574,167. (PI with co-PIs Dr. John Molinari and Dr. Robert Fovell)

Development of Improved Diagnostics, Numerical Models, and Situational Awareness of High-Impact Cyclones and Convective Weather Events, NOAA-NWS-NWSPO-2016-2004564: Collaborative Science, Technology, and Applied Research (CSTAR) Program, 5/1/2016–4/30/2021, \$450,000. (PI with co-PIs Dr. Andrea Lang, Dr. Justin Minder, Dr. Brian Tang, Dr. Ryan Torn, Dr. Lance Bosart, and Dr. Daniel Keyser)

Forecasting Tropical Cyclone Intensity Change: Assessing the Impact of Inner Core Lightning Bursts, Cooperative Program for Operational Meteorology, Education, and Training (COMET) GOES-R Partners Project, NOAA/UCAR Z1520542, 7/7/2015–7/30/2016, \$19,939. (PI with co-PI Dr. Mark DeMaria)

Collaborative Research with the National Weather Service on the Occurrence and Prediction of High-Impact Precipitation Events in the Northeastern United States, NOAA-NWS-NWSPO-2013-2003473: Collaborative Science, Technology, and Applied Research (CSTAR) Program, 9/1/2013–8/31/2017, \$375,000. (PI with co-PIs Dr. Lance Bosart, Dr. Daniel Keyser, Dr. Andrea Lang, Dr. Brian Tang, and Dr. Ryan Torn)

Investigating the Influence of Vertical Wind Shear on Tropical Cyclone Structure and Intensity, NASA ROSES 2011: Hurricane Science Research Program, 07/01/2012–6/30/2017, \$300,000. (PI with co-PI Dr. John Molinari)

Hurricane Forecast Improvement Through Optimization and Validation of Model Physics, NOAA-NWS-NWSPO-2011-2002893: Hurricane Forecast Improvement Project (HFIP), 01/01/2012–12/31/2013, \$227,461. (Co-PI with Dr. Robert Fovell)

Eastern North Pacific Ocean Tropical Cyclone Characteristics as Revealed by the World Wide Lightning Location Network, UCLA Faculty Career Development Award, 7/1/2011–7/31/2011, \$9,933. (PI)

Using Lightning Flash Locations to Characterize Eastern North Pacific Tropical Cyclones, University of California Institute for Mexico and the United States–Mexican National Council for Science and Technology (UCMEXUS–CONACYT), 07/01/2010–12/31/2011, \$25,000. (PI with co-PI Graciela Raga)

### **CONFERENCE PRESENTATIONS (Last five years + a sampling prior; talks only)**

Corbosiero, K. L., B. H. Tang, and S. Stevenson, 2025: Tropical cyclone intensity changes associated with outer rainband lightning. Eleventh Northeast Tropical Workshop, 4–5 August, Albany, New York.

Corbosiero, K. L., 2024: The UAlbany–NWS CSTAR partnership 2014–2024: High-impact weather in complex terrain. 25<sup>th</sup> Northeast Regional Operational Workshop. 13–15 November, Albany, NY.

Corbosiero, K. L., X. Zhang, J. Piersante, S. D. Ditchek, R. Fovell, and W. Xu, 2024: “Off-the-clock” tropical cyclone diurnal pulses. 36<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, 6–10 May, Long Beach, California, Virtual.

Corbosiero, K. L., X. Zhang, S. D. Ditchek, and W. Xu, 2023: Global characteristics of “on-the-clock” and “off-the-clock” tropical cyclone diurnal pulses. 20<sup>th</sup> Conference on Mesoscale Processes, 17–21 July, Madison, Wisconsin.

Corbosiero, K. L., X. Zhang, S. D. Ditchek, and W. Xu, 2023: Global characteristics of “on-the-clock” and “off-the-clock” tropical cyclone diurnal pulses. Tenth Northeast Tropical Workshop, 5–7 June, Albany, New York.

Corbosiero, K. L., 2023: The evolution of undergraduate synoptic meteorology education. 32<sup>nd</sup> Conference on Education at the 103<sup>rd</sup> American Meteorological Society Annual Meeting, 8–12 January, Virtual.

Corbosiero, K. L., E. Paltz, and B. H. Tang, 2022: Understanding the processes that lead to simultaneous changes in tropical cyclone intensity and size. 35<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, 9–13 May, Virtual.

Corbosiero, K. L., C. Peirano, and B. H. Tang, 2021: Tropical cyclone intensity change during trough interaction. 34<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, 10–14 May, Virtual.

- Corbosiero, K. L., 2020: Women in the Tropics: Contributions to our understanding of tropical cyclones in vertical wind shear. Women in the Tropics Symposium at the 100<sup>th</sup> American Meteorological Society Annual Meeting, 13–16 January, Boston, Massachusetts.
- Corbosiero, K. L., C. Peirano, and B. H. Tang, 2020: Forecasting tropical cyclone intensity change during trough interaction. 30<sup>th</sup> Conference on Weather and Forecasting/26<sup>th</sup> Conference on Numerical Weather Prediction, 13–16 January, Boston, Massachusetts.
- Corbosiero, S. N. Stevenson, and S. D. Ditchek, 2019: Investigating the diurnal cycle of lightning in tropical cyclones. Ninth Conference on the Meteorological Applications of Lightning Data, 7–10 January, Phoenix, Arizona.
- Corbosiero, K. L., S. N. Stevenson, and R. D. Torn, 2018: Diagnosis of secondary eyewall formation mechanisms in ensembles of high-resolution hurricane simulations. 33<sup>rd</sup> Conference on Hurricanes and Tropical Meteorology, 16–20 April, Ponte Vedra, Florida.
- Corbosiero, K. L., and R. A. Lazear, 2015: Application of the NLDN in the analysis of the variability of warm season thunderstorm occurrence. Seventh Conference on the Meteorological Applications of Lightning Data, 5–8 January, Phoenix, Arizona.
- Corbosiero, K. L., and S. N. Stevenson, 2014: Investigation of the rapid intensification of Hurricane Earl (2010). NASA HS3 Science Meeting, 29 April–1 May, NASA Research Park, Moffett Field, California.
- Corbosiero, K. L., and R. G. Fovell, 2013: The impact of cloud microphysics on hurricane track. 38<sup>th</sup> Northeastern Storm Conference, 2–4 March, Rutland, Vermont.
- Corbosiero, K. L., and R. A. Lazear, 2013: Verification of thunderstorm occurrence using the National Lightning Detection Network. Sixth Conference on the Meteorological Applications of Lightning Data, 6–10 January, Austin, Texas.
- Corbosiero, K. L., S. Abarca, and M. T. Montgomery, 2012: Vortex Rossby waves and secondary eyewall formation in a high-resolution simulation of Hurricane Katrina (2005). 30<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, 16–20 April, Ponte Vedra Beach, Florida.
- Corbosiero, K. L., R. McTaggart-Cowan, and L. Bosart, 2011: The impact of recurving eastern Pacific tropical cyclones on the downstream North American flow pattern. 15<sup>th</sup> Cyclone Workshop, 27 March–1 April, Pacific Grove, California.
- Corbosiero, K. L., S. F. Abarca, G. B. Raga, and F. O. Rosales, 2011: Tropical cyclone lightning characteristics as revealed by the World Wide Lightning Location Network (WWLLN). Fifth Conference on the Meteorological Applications of Lightning Data, 24–26 January, Seattle, Washington.
- Corbosiero, K. L., M. J. Dickinson, and L. Bosart, 2008: Recurving eastern North Pacific tropical cyclones. 14<sup>th</sup> Cyclone Workshop, 22–26 September, Sainte-Adèle, Quebec, Canada.
- Corbosiero, K. L., W. Wang, J. Done, J. Dudhia, and C. Davis, 2008: Inner core structures and intensity change simulated with the Advanced Hurricane WRF model. 28<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, 28 April–2 May, Orlando, Florida.
- Corbosiero, K. L., W. Wang, Y. Chen, J. Dudhia, and C. Davis, 2007: Advanced research WRF high resolution simulations of the inner core structure of Hurricanes Katrina, Rita and Wilma (2005). Eighth Annual WRF User’s Workshop, 11–15 June, Boulder, Colorado.

- Corbosiero, K. L., V. Cheruvu, J. Richter, C. Johnson and T. Eastburn, 2006: Climate and weather, the two go together: Girl Scouts at the National Center for Atmospheric Research program. Seventh International Conference on School and Popular Meteorological and Oceanic Education, 3–7 July, Boulder, Colorado.
- Corbosiero, K. L., M. J. Dickinson, and L. Bosart, 2006: The contribution of eastern North Pacific tropical cyclones to the warm season rainfall climatology of the southwestern United States. Second International Symposium on Quantitative Precipitation Forecasting and Hydrology. 5–8 June, Boulder, Colorado.
- Corbosiero, K. L., J. Molinari, A. R. Aiyer, and M. L. Black, 2006: Inner core asymmetries and vortex Rossby waves in Atlantic basin tropical cyclones. 27<sup>th</sup> Conference on Hurricanes and Tropical Meteorology, 24–28 April, Monterey, California.
- Corbosiero, K. L., 2002: Can the environment of maritime tropical cyclones support supercell thunderstorms? 27<sup>th</sup> Northeastern Storm Conference, 8–10 March, Saratoga Springs, New York.

### **OTHER PRESENTATIONS (Invited)**

- Investigating the diurnal cycle in tropical cyclones. Department of Meteorology and Atmospheric Science, Pennsylvania State University, 3 March 2021.
- Investigating the diurnal cycle of lightning in tropical cyclones. 18<sup>th</sup> Conference on Mesoscale Processes Keynote, Savannah, Georgia, 1 August 2019.
- The relationships between lightning activity and intensity changes in tropical cyclones. School of Marine and Atmospheric Sciences, Stony Brook University, 13 September 2017.
- Improving forecasts of high-impact weather events in New York State. Science Teachers Association of New York State–Eastern Section. Brown’s Brewery, 8 February 2017.
- Investigating the mechanisms responsible for secondary eyewall formation in high-resolution hurricane simulations. Geoscience Department, Hobart and William Smith Colleges, 6 November 2013.
- Observing hurricane structure and intensity. 10<sup>th</sup> Annual Science Research Symposium Keynote, Cohoes High School, 6 June 2012.
- Vortex Rossby waves and secondary eyewall formation in high-resolution hurricane simulations. Department of Earth and Atmospheric Sciences, Cornell University, 25 April 2012.
- The World Wide Lightning Location Network (WWLLN): Network overview, evaluation, and its application to tropical cyclone research. Department of Atmospheric Sciences, Texas A&M University, 15 February 2011.
- The contribution of eastern North Pacific tropical cyclones to the warm season rainfall climatology of the southwest United States. Environmental Science and Engineering Seminar Series, California Institute of Technology, 20 May 2009.
- The inner core structure and intensity change of Hurricane Elena (1985). Institute for Pure and Applied Mathematics at the University of California, Los Angeles, Small Scales and Extreme Events: The Hurricane, 14 February 2007.
- The structure and evolution of a hurricane in vertical wind shear: Hurricane Elena (1985). National Center for Atmospheric Research, Mesoscale and Microscale Meteorology Seminar, 22 September 2005.



The influence of vertical wind shear on tropical cyclones. Hurricane Research Division of the National Oceanic and Atmospheric Administration, 9 July 2002.

## **TEACHING**

### **Courses Offered**

ATM 100, The Atmosphere; Spring 2020

ATM 400, Synoptic Meteorology I; Fall 2011–2025

ATM 317, Atmospheric Dynamics II; Spring 2024, 2026

ATM 421, Tropical Meteorology; Spring 2013, 2015, 2017, 2019, 2021, 2023, 2025

ATM 527, Observations and Theory of Tropical Cyclones; Spring 2014, 2018, 2022

ATM 721, Special Problems in Synoptic Meteorology; Spring 2023

ATM 741, Special Problems in Tropical Cyclone Research; Spring 2012, 2016

### **PhD and MS Students Advised**

Evan Belkin (PhD candidate; co-advised with Dr. Ryan Torn)

Stefano Giove (PhD candidate; co-advised with Dr. Brian Tang)

Luis Hernandez (MS candidate; co-advised with Dr. Brian Tang)

Nicholas Johnson (PhD candidate; co-advised with Dr. Brian Tang)

Alex Mitchell (PhD candidate)

Jackson Powers (MS candidate; co-advised with Dr. Ryan Torn)

Jake Vile (MS candidate; co-advised with Dr. Brian Tang)

Emily Lucy (MS, August 2025; co-advised with Dr. Brian Tang)

Nathalie Rivera Torres (MS, August 2024; co-advised with Dr. Brian Tang)

Jeremiah Otero (PhD, May 2024; co-advised with Dr. Robert Fovell)

Brian Filipiak (MS, December 2022; co-advised with Dr. Nick Bassill and Ross Lazear)

Emily Paltz (MS, August 2021; co-advised with Dr. Brian Tang)

Dylan Card (PhD, May 2021)

Sarah Ditchek (PhD, August 2019)

Casey Peirano (PhD, August 2019; co-advised with Dr. Brian Tang)

Joshua Alland (PhD, May 2019; co-advised with Dr. Brian Tang)

Tomer Burg (MS, May 2019; co-advised with Dr. Andrea Lang and Dr. Ryan Torn)

Michael Fischer (PhD, June 2018; co-advised with Dr. Brian Tang)

Stephanie Stevenson (PhD, May 2018)

Molly Smith (MS, May 2017; co-advised with Dr. Ryan Torn)

Adrian Mitchell (MS, December 2014; co-advised with Dr. Lance Bosart)

Sergio Abarca (PhD, May 2011, UCLA)

Kathryn Shontz (MS, December 2009, UCLA)

### **PhD Committees and MS Theses Second Reader**

PhD committee member for Leon Nguyen, Philippe Papin, Patrick Duran, Rosimar Rios-Berrios, T. Connor Nelson, Jannetta Richardson, Yichen (Jade) Cai, Melissa Piper, Minghao Zhou

MS thesis second reader for Travis Elless, Erin Dougherty, Eric Bunker, Ernesto Findlay, Marshall Pfahler, Minghao Zhou, Alex Tomoff, Melissa Piper, Alex Mitchell, Michael Barletta

### **Undergraduate Students Mentored**

Smith, E. B., University at Albany Honors research, “Tropical cyclone rainband lightning and intensity change”, April 2025–present.

Marissa McGuire, University at Albany research, “The role of Madden Julian Oscillation in Winter 2022–2023 Weather over the United States”, September 2023–May 2024.

Trey Ryan, University at Albany Honors research, “Warm season Mohawk–Hudson convergence events”, August 2022–May 2023.

Megan Schiede, University at Albany Honors College, “The analysis of relationships between lightning strikes and particulate matter 2.5 utilizing statistical and numerical modeling methods applied to the 2020 wildfire season”, March 2020–May 2022.

Christina Talamo, University at Albany Honors College, “Investigating the characteristics of rapid weakening in tropical cyclones”, March 2019–May 2020.

Kurt Hansen (co-advised with Dr. Ben Schenkel), University at Albany Honors College, “Intra-seasonal variability of tropical cyclone formation”, March 2014–December 2015.

Jason Keefer, University at Albany Honors College, “The rapid intensification of Hurricane Gustav (2008)”, October 2011–May 2012.

### **High School Students Mentored**

Katie McKeown, Advanced Science Research Course, Yorktown, NY High School, “The relationship between major meteorological seasons”, May 2013–June 2015.

Reid Kisselback, University at Albany University in the High School Program, Cohoes, NY High School, “Integrated kinetic energy versus The Saffir-Simpson Scale: A study on the destructive potential of hurricanes”, June 2011–May 2013.

### **Student Awards**

Jeremiah Otero, University at Albany Distinguished Dissertation Award, 2025.

Nicholas Johnson, NASA FINESST Fellowship, “Measuring ventilation in tropical cyclones using NASA observations”, September 2023–August 2026.

Sarah Ditchek, University at Albany Narayan R. Gokhale Research Award, 2020.

Sarah Ditchek, University at Albany Distinguished Dissertation Award, 2020.

Joshua Alland, University at Albany Narayan R. Gokhale Research Award, 2019.

Michael Fischer, University at Albany Distinguished Dissertation Award, 2019.

Michael Fischer, University at Albany Narayan R. Gokhale Research Award, 2018.

Joshua Alland, NCAR Advanced Study Program Graduate Student Visitor, May–August 2018.

Michael Fischer, Outstanding Student Oral Presentation, “Characteristics of tropical cyclone rapid intensification in environments of upper-tropospheric troughs”, 33<sup>rd</sup> Conference on Hurricanes and Tropical Meteorology, April 2018.

Stephanie Stevenson, NASA Earth and Space Science Fellowship, “Kinematic and thermodynamic analysis of tropical cyclone intensity changes signaled by outer rainband lightning activity during NASA’s GRIP and HS3 missions”, May 2015–April 2018.

Casey Peirano, National Defense Science and Engineering Graduate Fellowship, August 2015–July 2018.

Katie McKeown, Association of Women Geoscientists Award and First Place Earth and Space Science, “The relationship between major meteorological seasons”, Westchester Science and Engineering Fair, March 2015.

## **SERVICE**

### **Departmental**

Department of Atmospheric and Environmental Sciences (DAES) Chair, September 2025–present.

DAES Graduate Program Committee, May 2012–August 2025 (Chair, September 2018–August 2025).

DAES Inclusion and Diversity Committee, April 2017–present (Chair, April 2017–August 2018).

DAES Associate Chair, November 2023–August 2025.

DAES Extreme Weather Faculty Search Committee, ODI Representative, September 2023–March 2024.

DAES Artificial Intelligence Faculty Search Committee, November 2022–April 2023.

DAES/Atmospheric Science Research Center (ASRC) Graduate Student Recruitment Weekend Faculty Chair, 2015–2018, 2020, 2021.

DAES Department Chair Search Committee, December 2016–February 2017, January–March 2022.

DAES/ASRC Seminar Coordinator, August 2012–May 2013.

DAES Ocean–Atmosphere Interactions/Climate–Cryosphere Dynamics and Feedbacks Faculty Search Committee, August 2012–March 2013.

DAES Ocean–Atmosphere Interactions/Climate–Cryosphere Dynamics and Feedbacks Faculty Search Committee, August 2011–March 2012.

### **College (CAS)**

Women in Science and Health (WISH), Steering Committee, May 2018–present.

CAS Dean’s Advisory Board Meeting luncheon speaker, 6 November 2023.

CAS Diversity/Climate Committee, September 2019–May 2022.

University at Albany, College of Arts and Sciences Faculty Council, September 2014–September 2016.

### **University**

University at Albany, Center of Excellence in Weather and Climate Analytics Search Committee, August 2021–December 2021.

University at Albany, Advisement Services Center Academic Advisor Search Committee, October 2013–January 2014.

### **Professional**

Co-organizer, 16<sup>th</sup>–21<sup>st</sup> Cyclone Workshops, 2012–present.

New York State Mesonet, Science Advisory Committee, 2019–present.

Editor, *Monthly Weather Review*, 2019–present.

Member of the NCAR Mesoscale and Microscale Meteorology Advisory Panel, 2021–present (Chair, 2023, 2024).

Member of the NASA Global Hydrometeorology Resource Center’s User Working Group, 2023–present.

Associate Chief Editor, *Monthly Weather Review*, 2024–2025.

Member of the American Meteorological Society (AMS) Awards Nominations Committee, 2021–2023.

Member of the Tenth International Workshop on Tropical Cyclones, Intensity Change–Internal Processes Working Group, 2022–2023.

Member of the AMS Science and Technological Activities Commission (STAC) on Mesoscale Processes, 2020–2025.

Member of the Ninth International Workshop on Tropical Cyclones, Intensity Change–Internal Processes Working Group, 2018–2020.

Associate Editor, *Monthly Weather Review*, 2008–2018.

Member, Developmental Testbed Center Science Advisory Board, 2014–2017.

Panel Member, Skilled-Based Careers in Atmospheric Science: Research, 15<sup>th</sup> Annual AMS Student Conference, 9 January 2016.

Member of the AMS STAC on Tropical Meteorology and Tropical Cyclones, 2010–2015.

Best Student Poster Award Committee, 31<sup>st</sup> AMS Conference on Hurricanes and Tropical Meteorology, 2014.

Max Eaton Award Committee, 30<sup>th</sup> AMS Conference on Hurricanes and Tropical Meteorology, 2012.

Member of the National Centers for Environmental Prediction external review panel for the Ocean Prediction Center and the National Hurricane Center, 2009–2011.

Chair, Max Eaton Award Committee, 28<sup>th</sup> AMS Conference on Hurricanes and Tropical Meteorology, 2008.

Reviewer for National Science Foundation, National Aeronautics and Space Administration, *Monthly Weather Review*, *Journal of the Atmospheric Sciences*, *Journal of Climate*, *Weather and Forecasting*, *Bulletin of the American Meteorological Society*, *Quarterly Journal of the Royal Meteorological Society*, *Nature Geosciences*, *Journal of Geophysical Research*, *Geophysical Research Letters*, *Journal of Advances in Modeling Earth Systems*

## **HONORS AND AWARDS**

University at Albany Senior Faculty Recognition, “In appreciation of your Research: Cutting-edge work on the interaction between tropical cyclones and the environments in which they are embedded”, October 2023.

American Geophysical Society 2020 Editors’ Citation for Excellence in Refereeing, May 2021.

Faculty and Staff, First Place Trophy for excellent in forecasting for Grand Island, NE, WxChallenge, November 2016.

Women in Science Award, Ford Foundation University at Albany Initiatives for Women (IFW), May 2015.

NASA Group Achievement Award, Hurricane and Severe Storm Sentinel Team, 2015.

*Monthly Weather Review* Editor’s Award, “For providing thorough reviews of a large number of manuscripts and for special assistance to the editors in evaluating controversial manuscripts.”, 2010.

Narayan R. Gokhale Distinguished Research Award, University at Albany, 2005.