

Andrea Angela Lopez Lang

CV

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Education

Fall 2021

- 2011 **Ph. D.**, Atmospheric and Oceanic Sciences, University of Wisconsin – Madison
Certificate: Delta Program for Research, Teaching and Learning.
- 2007 **M. S.**, Atmospheric and Oceanic Sciences, University of Wisconsin – Madison
- 2004 **B. S.**, Atmospheric and Oceanic Sciences, University of Wisconsin – Madison

Appointments

- Associate Professor, Department of Atmospheric and Environmental Sciences, University at Albany, State University of New York 2019 – *present*
- Assistant Professor, Department of Atmospheric and Environmental Sciences, University at Albany, State University of New York 2016 – 2019
- Visiting Assistant Professor, Department of Atmospheric and Environmental Sciences, University at Albany, State University of New York (*Official appointment title during tenure-clock stoppage*) 2015 – 2016
- Assistant Professor, Department of Atmospheric and Environmental Sciences, University at Albany, State University of New York 2012 – 2015
- Postdoctoral Research Fellow, Department of Atmospheric and Environmental Sciences, University at Albany, State University of New York 2011 – 2012
- National Research Council/Ford Foundation Predoctoral Fellow, Department of Atmospheric and Oceanic Sciences, University of Wisconsin – Madison 2008 – 2011
- Lecturer, Department of Atmospheric & Oceanic Sciences, University of Wisconsin – Madison 2009
- Graduate Research & Teaching Assistant, Department of Atmospheric and Oceanic Sciences, University of Wisconsin – Madison 2004 – 2008
- Undergraduate Research Assistant, Summer Institute for Atmospheric Hydrospheric and Terrestrial Sciences, Goddard Space Flight Center/National Aeronautics and Space Administration (GSFC/NASA), Greenbelt, MD 2003

Awards and Honors

- Elected to the American Meteorological Society (AMS) Council 2020
- AMS Early Career Leadership Academy 2018
- The Judy L. Genshaft Initiatives for Women Award, UAlbany Foundation 2018
- State University of New York Faculty Diversity Award 2012 – 2015
- National Research Council/Ford Foundation Predoctoral Fellow 2008 – 2011
- Wahl Award, outstanding performance as a Teaching Assistant, Department of Atmospheric and Oceanic Sciences, University of Wisconsin – Madison 2009
- Academic All-American, CoSIDA/ESPN The Magazine 2006
- Arthur Ashe Jr. Scholar, Diversity Issues in Higher Education Magazine 2005 & 2006
- Advanced Opportunities Fellow, Graduate School, University of Wisconsin – Madison 2004 – 2005
- Chancellor's Scholar, University of Wisconsin – Madison 2001 – 2004

Publications

* indicates student collaborators, *italics* indicates members of my research group.

Publications (Links available via ORCID: <https://orcid.org/0000-0002-7731-4038>)

- Cardinale, C. J.*, B. E. J., Rose, **A. L. Lang**, and A. Donohoe, 2021: Stratospheric and Tropospheric Flux Contributions to the Polar Cap Energy Budgets, *J. Climate*, **34**, 4261–4278, <https://doi.org/10.1175/JCLI-D-20-0722.1>
- **Lang, A. L.**, K. Pegion, and E. A. Barnes, 2020: Introduction to Special Collection: Bridging Weather and Climate: Subseasonal-to-Seasonal (S2S) Prediction. *J. Geophys. Res. Atmos.* **125**, <https://doi.org/10.1029/2019JD031833>
- Mariotti, A., C. Baggett, E.A. Barnes, E. Becker, A. Butler, D.C. Collins, P.A. Dirmeyer, L. Ferranti, N.C. Johnson, J. Jones, B.P. Kirtman, **A. L. Lang**, A. Molod, M. Newman, A.W. Robertson, S. Schubert, D.E. Waliser, and J. Albers, 2020: Windows of Opportunity for Skillful Forecasts Subseasonal to Seasonal and Beyond. *Bull. Amer. Meteor. Soc.*, **101**, E608–E625, <https://doi.org/10.1175/BAMS-D-18-0326.1>
- Domeisen, D., A. Butler, A. Charlton-Perez, B. Ayarzagüena, M. Baldwin, E. Dunn-Sigouin, J. Furtado, C. Garfinkel, P. Hitchcock A. Karpechko, H. Kim, J. Knight, **A. L. Lang**, E.-P. Lim, A. Marshall, G. Roff, C. Schwartz, I. Simpson, S.-W. Son, M. Taguchi, 2019: The role of the stratosphere in sub-seasonal to seasonal prediction. Part I: Predictability of the stratosphere. *J. Geophys. Res.–Atmos.* **124**, <https://doi.org/10.1029/2019JD030920>
- Domeisen, D., A. Butler, A. Charlton-Perez, B. Ayarzagüena, M. Baldwin, E. Dunn-Sigouin, J. Furtado, C. Garfinkel, P. Hitchcock A. Karpechko, H. Kim, J. Knight, **A. L. Lang**, E.-P. Lim, A. Marshall, G. Roff, C. Schwartz, I. Simpson, S.-W. Son, M. Taguchi, 2019: The role of the stratosphere in sub-seasonal to seasonal prediction. Part II: Predictability arising from stratosphere - troposphere coupling. *J. Geophys. Res.–Atmos.* **124**, <https://doi.org/10.1029/2019JD030923>
- *Attard, H. E.** and **A. L. Lang**, 2019b: Troposphere-stratosphere coupling following tropospheric blocking and extratropical cyclones. *Mon. Wea. Rev.*, **147**, 1781–1804, <https://doi.org/10.1175/MWR-D-18-0335.1>
- Mariotti, A., E. A. Barnes, E. K.-M. Chang, **A. Lang**, P. A. Dirmeyer, K. Pegion, D. Barrie, and C. Baggett, 2019: Bridging the weather-to-climate prediction gap, *Eos*, **100**, <https://doi.org/10.1029/2019EO115819>.
- *Attard, H. E.** and **A. L. Lang**, 2019a: The Impact of Tropospheric and Stratospheric Tropical Variability on the Location, Frequency, and Duration of Cool-Season Extratropical Synoptic Events. *Mon. Wea. Rev.*, **147**, 519–542, <http://dx.doi.org/10.1175/MWR-D-18-0039.1>
- *Attard, H. E.** and **A. L. Lang**, 2017: Climatological and case analyses of lower-stratospheric fronts over North America. *Q.J.R. Meteorol. Soc.*, **145**. 1471–1484. <https://doi.org/10.1002/qj.3018>
- Tripathi, O. P., M. Baldwin, A. Charlton-Perez, M. Charron, J. C. H. Cheung, D. Decremmer, S. D. Eckermann, E. Gerber, D. R. Jackson, Y. Kurodah, **A. Lang**, J. Mclay, R. Mizuta, C. Reynolds, G. Roff, M. Sigmond, S.-W. Son, T. Stockdale, 2016: Examining the predictability of the Stratospheric Sudden Warming of January 2013 using multiple NWP systems. *Mon. Wea. Rev.* **144**, 1935–1960. <http://dx.doi.org/10.1175/MWR-D-15-0010.1>

- *Attard, H. E. **, R. Rios-Barrios*, C. Guastini*, **A. L. Lang**, 2016: Tropospheric and stratospheric precursors to the January 2013 sudden stratospheric warming. *Mon. Wea. Rev.*, 144, 1321-1339. <https://doi.org/10.1175/MWR-D-15-0175.1>
- Schreck III, C. J., S. Bennett, J. M. Cordeira, J. Crouch, J. Dissen; **A. L. Lang**, D. Margolin, A. O'Shay, J. Rennie, M. Ventrice, 2015: Natural gas prices and the extreme winters of 2011/12 and 2013/14: Causes, indicators, and interactions. *Bull. Amer. Meteor. Soc.*, 96, 1879–1894. doi: <http://dx.doi.org/10.1175/BAMS-D-13-00237.1>
NOAA/NCDC press release: <http://www.ncdc.noaa.gov/news/natural-gas-prices-and-extreme-winters>
- Tripathi. O. P., M. Baldwin, A. Charlton-Perez, M. Charron, S. Eckermann, E. Gerber, G. Harrison, D. Jackson, B.-M. Kim, Y. Kurodag, **A. Lang**, C. Lee, S. Mahmood, R. Mizuta, G. Roff, M. Sigmund, S.-W. Son, 2015: Review: The predictability of the extra-tropical stratosphere and its impacts on the skill of tropospheric forecasts. *Q. J. Roy. Meteorol. Soc.*, 141: 987–1003. <https://doi.org/10.1002/qj.2432> (*Featured article*).
- **Lang, A. A.** and J. E. Martin, 2013: The structure and evolution of lower stratospheric frontal zones. Part II: The influence of tropospheric convection on lower stratospheric frontal development. *Q. J. Roy. Meteorol. Soc.* **139**, 1798-1809. <https://doi.org/10.1002/qj.2074>
- **Lang, A. A.** and J. E. Martin, 2013: Reply to comments on ‘The influence of rotational frontogenesis and its associated shearwise circulation on the development of an upper-level front.’ *Q. J. Roy. Meteorol. Soc.*, **139**, 273-279. <https://doi.org/10.1002/qj.2042>
- **Lang, A. A.** and J. E. Martin, 2012: The structure and evolution of lower stratospheric frontal zones. Part I: Examples in northwesterly and southwesterly flow. *Q. J. Roy. Meteorol. Soc.* **138**, 1350-1365. <https://doi.org/10.1002/qj.843>
- **Lang, A. A.** and J. E. Martin, 2010: The influence of rotational frontogenesis and its associated shearwise circulation on the development of an upper-level front. *Q. J. Roy. Meteorol. Soc.* **136**, 239-252. <https://doi.org/10.1002/qj.551>

Other Scholarly Publications

- Barnes, E. A., **A. L. Lang**, P. Dirmeyer, K. Pegion, E. Chang, A. Mariotti, 2021: Outcomes from the Subseasonal-to-Seasonal (S2S) Prediction Task Force, NOAA/MAPP S2S Task Force Final Technical Report. p. 101, DOI: 10.25923/795y-kn97
- **Lang, A. L.**, 2015. Fronts in the lower stratosphere. In: Gerald R. North (editor-in-chief), John Pyle and Fuqing Zhang (editors). *Encyclopedia of Atmospheric Sciences*, 2nd edition, Vol 5, pp. 344–352. ISBN: 978-0-12-382225-3

Grants and Funding

Awarded – Research Grants

1. **PI:** “Assessing the influence of lower stratospheric Rossby wave dynamics in North American winter extreme events” to NOAA/CPO FY2020 Competition 7: Multi-Program: Explaining Climate Extreme Events: Developing a Rapid Assessment Capability and Understanding the Causes and Mechanisms of Extreme Events Type 1, Award: NA20OAR431038,1 \$460,281. 1 Sept 2020 – 31 Aug 2023
2. **Co-PI:** “Improving Analyses, Numerical Models, and Situational Awareness of High-Impact Severe Convective and Mixed-Phase Precipitation Events in Complex Terrain,” NOAA/NWS/CSTAR 1 Jun 2019 – 1 May 2022

Award #NA19NWS4680006, *PI: Dr. Kristen Corbosiero, co-PIs: Dr. Andrea Lang, Dr. Justin Minder, Dr. Brian Tang, Dr. Rob Fovell, Dr. Nick Bassill, Ross Lazear.* \$450,000.

3. **PI:** “Understanding the role of the stratosphere in sub-seasonal-to-seasonal variability and predictability of Arctic weather systems,” U.S. Navy/ONR, Award: N000141812199, \$609,365. 1 Mar 2018 – 28 Feb 2023
4. **PI:** “A climatological and forecast perspective on the lower stratospheric environment during synoptic waveguide perturbation events,” NSF/GEO/AGS/CLD, Award #AGS1547814, \$361,907. 1 Jul 2016 – 30 Jun 2021
5. **PI:** “A Categorical Assessment of Forecast Skill, Uncertainty, and Biases in Extended-Range Ensemble Forecasts of Stratospheric Regime Changes,” NOAA/OAR/CPO/MAPP, Award #NA16OAR4310068, \$363,882. 1 Jul 2016 – 30 Jun 2021
6. **Co-PI:** “Development of improved diagnostics, numerical models, and situational awareness of high-impact cyclones and convective weather events,” NOAA/NWS/CSTAR. Award #NA16NWS4680005. *PI: Dr. Kristen Corbosiero, co-PIs: Dr. Lance Bosart, Dr. Daniel Keyser, Dr. Justin Minder, Dr. Brian Tang, and Dr. Ryan Torn.* \$450,000. 1 Apr 2016 – 30 Mar 2019
7. **Co-PI:** “Collaborative research with the National Weather Service on the occurrence and prediction of high-impact precipitation events in the Northeastern United States,” NOAA/NWS/CSTAR Award #NA13NWS4680004. *PI: Dr. Kristen Corbosiero, co-PIs Dr. Lance Bosart, Dr. Daniel Keyser, Dr. Brian Tang, and Dr. Ryan Torn.* \$375,000. 1 Sept 2013 – 31 Aug 2017

Awarded – Workshops

1. “Workshop to Promote Educating the Next Generation of Atmospheric Scientists for Industry Needs.” Workshop PIs: Steven Bennett (Riskpulse), Heidi Centola (IBM), Larry Gleockler III (Riskpulse), Dr. Sue E. Haupt (NCAR), Dr. Andrea L. Lang (UAlbany). July 2018 – December 2019. Award administered through NCAR Award #2018-0663. NSF/GEO/AGS/Education and Cross Disciplinary Activities Program, 1 Jan 2019 – 31 Dec 2019, \$89,867.
2. “Second Workshop to Promote Educating the Next Generation of Atmospheric Scientists for Industry Needs.” Workshop PI: A. Lang, Org Committee: Steven Bennett (Demex), Heidi Centola (IBM), Max Vido (Aces Power), Dr. Sue E. Haupt (NCAR), Dr. Victor Gensini (U. Northern Illinois). NSF/GEO/AGS/Education and Cross Disciplinary Activities Program, 1 Feb 2022 – 31 Jan 2023, \$99,999.

Science Consultancies

- Meteorological Research and Science Consultant, RiskPulse, Austin, TX – 2014 – 2019
Consult on real-time medium-range to seasonal forecast discussions.

Research Presentations

Invited Seminars & Conference Presentations

- “Subseasonal-to-Seasonal Stratospheric Variability and Tropopause Polar Vortices” Department of Atmospheric Science Colloquium, University of Illinois Urbana-Champaign, 5 October 20
- “The signal of stratospheric variability in Arctic weather systems” Ocean and Climate Physics Seminar, Lamont-Doherty Earth Observatory, Columbia University, 5 February 2021.
- “Impacts of Subseasonal-to-Seasonal Stratospheric Variability on Tropopause Polar Vortices” Subseasonal to Seasonal Climate Prediction, Processes, and Services Session, Virtual AGU Fall Meeting, 16 Dec 2020.

- “Troposphere-Stratosphere Coupling and Synoptic Variability in Early Season Weak Vortex Events,” Workshop on Atmospheric Circulation in a Changing Climate, DynVarMIP/CMIP6 & SPARC DynVar & SNAP, Universidad Complutense de Madrid, Spain, 22-25 October 2019.
- “Examining Northern Hemisphere Autumnal Stratospheric Variability in Subseasonal-to-Seasonal (S2S) Prediction Models,” GFDL Seminar, NOAA/Geophysical Fluid Dynamics Laboratory, Princeton, NJ, 21 November 2019
- “The NOAA Subseasonal-to-Seasonal (S2S) Prediction Task Force – with a Focus on Stratospheric Pathways for S2S Forecast Skill.” United States Climate Modeling Summit, Workshop on Modes of Variability (DoE, NASA/GMAO, NASA/GISS, NOAA/EMC, NOAA/GFDL, NCAR), NASA Goddard Space Flight Center, Lanham MD, 3 April 2019.
- “Research Bridging Weather and Climate: The S2S Prediction Task Force.” Special Symposium on Catalyzing Innovation in Weather Science Internationally organized by the WWRP. AMS Annual Meeting, Phoenix, AZ, 8 January 2019.
- “S2S Prediction and Sources of S2S Forecast Skill: A Focus on Stratospheric Pathways.” American Geophysical Union (AGU) Fall Meeting 2018, Washington, DC, 10-14 December 2018.
- “The role of the stratosphere in the sub-seasonal predictability of mid- and high-latitude weather.” National Weather Center Colloquium, School of Meteorology, University of Oklahoma, Norman, OK, 10 October 2018.
- “A pathway for the stratosphere to impact the autumnal storm tracks.” Stormtracks 2018 Workshop: Alternative perspectives on storm tracks in a changing climate, Utö, Stockholm, Sweden, 27-31 August 2018.
- “Sub-seasonal predictability: A stratospheric perspective.” Colloquium Series, Department of Atmospheric and Oceanic Sciences, University of Wisconsin–Madison, 18 September 2017.
- “Understanding the role of the stratosphere in sub-seasonal-to-seasonal variability and predictability of the Arctic.” Arctic Meteorology Workshop, Seattle, WA, 10 July 2017.
- “The polar vortex and sub-seasonal forecasts.” The Nelson A. Rockefeller Institute of Government Program on *Facing the Storm: El Nino, the Polar Vortex and the Prospects for the Winter of 2016/17*, Albany, NY, 10 November 2016.
- “The mid- and high-latitude response to the extratropical transition of TC Dale (1996).” School of Marine and Atmospheric Science Seminar, Stony Brook University, Stony Brook, NY, 4 Feb 2015.
- “The Stratosphere Network for the Assessment of Predictability (SNAP) activities.” Stratospheric Processes And their Role in Climate (SPARC) – Data Assimilation (DA) Workshop, NOAA Center for Weather and Climate Prediction (NCWCP), College Park, Maryland, 8 September 2014. (SPARC News: http://issuu.com/sparc-climate/docs/44_sparcnewsletter_jan2015_web/32)
- “The role of the extratropical transition of TC Dale (1996) on the anomalous 1996-97 wintertime stratospheric circulation.” The Earth Institute's Lamont-Doherty Earth Observatory, Ocean and Climate Physics (DOCP) Seminar Series, Columbia University, Palisades, NY, 28 Mar 2014.
- “Exploring jet-front systems from a ‘heightened’ perspective.” Meteorology Colloquia, Department of Meteorology, Pennsylvania State University, University Park, Pennsylvania, 11 April, 2012.
- “Lower stratospheric fronts: The neglected half of upper level jet-front systems.” Physics Seminar Series, Department of Physics and Astronomy, College of Charleston, Charleston, SC, 3 March, 2011.
- “Expanding our perspective of jet-front systems.” Department Seminar Series, Department of Atmospheric and Environmental Sciences, University at Albany, SUNY, Albany, NY, 23 Feb 2011.
- “Revisiting jet-front systems.” Department Seminar Series, Department of Mathematical Sciences, University of Wisconsin–Milwaukee, Milwaukee, Wisconsin, 9 December, 2010.

Select Contributed Presentations

- “Examining the Potential for Stratospheric Flow Impacts from a Recurring Tropical Cyclone” A. Lang and M. Main, Mesoscale Symposium: Tropical and Mesoscale Extremes, Virtual AMS Annual Meeting, 11 January 2021.
- “The impact of Tropospheric and stratospheric tropical variability on the location, frequency, and duration of cool-season extratropical synoptic systems” A. Lang and H. Attard, The 20th AMS Conference on Middle Atmosphere, Phoenix, AZ, 10 January 2019.
- “Winter 2017/18 sudden stratospheric warming hits and false alarms in S2S forecasts.” A. Lang and H. Attard. Second International Conference on Subseasonal to Seasonal Prediction, Boulder, CO, 17-21 September 2018.
- “The 2016-2017 early season weak stratospheric vortex event: Precursors and predictability,” A. Lang, NOAA/CPO/MAPP/S2S Prediction Task Force Teleconference, 16 August 2017.
- “The 2016-2017 Early season weak stratospheric vortex event: Precursors and predictability,” A. Lang, 19th Conference on Middle Atmosphere, Portland, OR, 29 June 2017.
- “A predictability study: Two extratropical transition of tropical cyclone events and the November 1996 stratospheric polar vortex” A. Lang, 28th Conference on Weather Analysis and Forecasting & 24th Conference on Numerical Weather Prediction, Seattle WA, 26 January 2017.
- “The Stratosphere Network for the Assessment of Predictability (SNAP) activities” A. Lang, Workshop on Subseasonal-to-Seasonal (S2S) Prediction, Palisades NY, 7 December, 2016.
- “Extratropical transition events and their impact on the early winter stratospheric circulation” A. Lang, 16th Cyclone Workshop, Sainte Adele, Quebec, Canada, 24 September 2013.
- “The extratropical transition of TC Dale (1996) and its impact on the early 1996-97 wintertime stratospheric circulation.” A. Lang, J. Cordeira, L. Bosart, and D. Keyser, 19th Conference on Atmospheric and Oceanic Fluid Dynamics & the 17th Conference on Middle Atmosphere, Newport, RI, 19 June 2013.
- “A brief overview of our growing knowledge of troposphere-stratosphere interactions,” A. Lang, Third Workshop on Medium/Long Range Weather Forecasting, Albany, NY, 15 May 2013.
- "The impact of the extra-tropical transition of TC Dale (1996) on the early 1996-97 wintertime stratospheric circulation." A. Lang, J. Cordeira, L. Bosart, and D. Keyser, CMOS 2012 Congress/AMS 21st NWP and 25th WAF Conferences, Montreal, Quebec, Canada, 29 May - 1 June 2012.
- "The impact of Western Pacific tropical cyclones on North Pacific jet circulations" A. Lang, L. Bosart, and D. Keyser, 30th Conference on Hurricanes and Tropical Meteorology, Ponte Vedra Beach, Florida, 15-20 March 2012.

TeachingCourses Taught, University at Albany

See the course webpages here: <http://www.atmos.albany.edu/facstaff/andrea/teaching.html>

- ATM 110: Weather and Climate Issues (3 cr) Fall 2014, 2016
Developed new Honors College/general education course
20-30 students
- ATM 210: Atmospheric Structure, Thermodynamics, and Circulation (3 cr) Fall 2018–2021
Undergraduate requirements in ATM Sci/ENV Sci/ENV Eng,
40-65 students

- ATM 317: Dynamic Meteorology II (3 cr) Spring 2013–
Revised undergraduate required course in ATM Sci 2019, 2021
10-25 students
- ATM 525: Troposphere-Stratosphere Interactions (3 cr) Fall 2013, 2015,
Developed new graduate course 2017;
6-18 students Spring 2020

Courses Taught, University of Wisconsin-Madison

- AOS 100: Introduction to Weather and Climate (3 cr) Spring 2009
Large undergraduate general education course.

Additional Teaching Experience

- Instructor: Mini-Course for the New York State Master Teacher Program 26 Oct – 9 Nov
Designed 3 2-hour courses on weather and climate for STEM secondary 2016
school teachers involved with the NYS Master Teacher Program, roughly
200 teachers in attendance locally and statewide (virtually)
- Guest lecturer: UFSP 100 – Freshman Seminar at University at Albany Fall 2014–2017
Contributed to course design, assignments & lectures
- Seminar: Research, Computing and Working in DAES Fall 2012
Organized an 8-week seminar for graduate students and staff in DAES
- Certificate: Delta Program in Research, Teaching, and Learning 2011
For the development of a future faculty in the STEM fields that are
committed to implementing and advancing effective teaching practices for
diverse student audiences as part of their professional careers.
- Instructor: College Access Program, Student Diversity Programs, School of Summer 2009
Education, University of Wisconsin – Madison, for underrepresented in
STEM high school students.

Student Mentoring

Graduate Level

Masters Research

- Grace Dines, Thesis advisor, M. S., *expected 2023*
- Elena Fernandez, Thesis advisor, M. S. *expected 2022*
- Brian Flipiak, Thesis Co-advisor, M.S. *expected 2022*
- Hannah E. Attard, Thesis advisor, M. S. 2014 (now a Asst. Prof. at Embry-Riddle Worldwide)
- Jonathan Bluffer, Thesis advisor, M. S. 2017 (now a Project Lead at California Air Resource Board)
- Tomer Burg, Thesis advisor, M. S. co-advisors Profs. Kristen Corbosiero and Ryan Torn, 2019
(now PhD student at OU)
- Chris Cardinale, Reader, M. S. 2018 (now PhD candidate at UAlbany)
- Mike Main, Thesis advisor, M. S. 2020 (now a forecaster in the NWS)
- Colleen McHugh, Reader, M. S. 2017 (now a PhD candidate at Princeton)
- Rebecca Steeves, Thesis advisor, M. S. 2017, co-advised with Prof. Daniel Keyser (now a CIMMS
Research Associate within NSSL)

Doctoral Research

- Kevin Biernat, Committee member, Ph. D expected 2021
- Payton Capute, Committee member, Ph. D, expected 2023
- Chris Cardinale, Committee member, Ph. D expected 2022
- Chengzhe Chen, Committee member, Ph. D. Expected 2022
- Cameron Paquette, Thesis advisor, Ph. D. expected 2023
- Paul Panhans, Thesis advisor, Ph. D. expected 2023
- Hannah E. Attard, Thesis advisor, Ph. D. 2018 (now a Asst. Prof at Embry-Riddle Worldwide)
- Alicia Bentley, Committee member, Ph. D. 2018 (now at NOAA/WPC)
- Jennifer Gahtahn, Committee member, Ph. D. 2019 (now a postdoc at NASA/JPL)
- Ben Moore, Committee member, Ph. D. 2017 (now at NOAA/ESRL)

Undergraduate Level*Independent Research*

- Victoria Zenobio, Summer 2021, Troposphere and stratosphere evolution during the February 2021 cold air outbreak.
- Genevieve Picciano, Summer 2021, Cyclone evolution during the strong vortex event of 2020 and the weak vortex event of 2019
- Chelsea Snide, Independent Study, S2S forecasts of North American extreme temperatures. Fall 2018/Spring 2019. Now at Solea Energy.
- Christopher Cardinale, Independent Study, Fall 2015 & Spring 2016. Results presented at Northeastern Storm Conference, Saratoga Springs, NY, 4 March 2016. Now a Ph. D.. student at Univ. at Albany.
- Samantha Basile, Independent Study, Fall 2012 & Spring 2013. Results presented at Northeastern Storm Conference, Rutland, VT, 9 March 2013. Now a Senior Scientist for the National Climate Assessment

Academic Advising

- Annually 6-10 undergraduates majoring in Environmental Science or Atmospheric Science
- Transfer student advising liaison for Atmospheric Science B.S. within the UAlbany Advisement Services Center, 2017 – 2019

Student Awards & Recognition

- Outstanding Student Presentation – Poster, 33th Conference on Climate Variability and Change, AMS (M. Main) Jan 2020
- Student Representative, UCAR Unidata Users Committee (T. Burg) 2017 – 2019
- Observing Member, AMS Energy Committee (J. Blufer) 2017 – 2018
- NASA Earth and Space Science Graduate Fellowship (H. Attard) 2016 – 2018
- Outstanding Student Presentation – Poster, 19th Conference on the Middle Atmosphere, AMS (J. Blufer) June 2017
- AMS Graduate Fellowship (T. Burg) 2016 – 2017
- Vonnegut Teaching Award, Department of Atmospheric and Environmental Sciences, University at Albany, SUNY (H. Attard) 2014, 2017
- International Travel Support for the SPARC Workshop on storm tracks, Grindelwald, Switzerland (H. Attard) Aug 2015

- Outstanding Student Presentation – Oral, 26th Conference of Weather Analysis and Forecasting/22nd Conference on Numerical Weather Prediction, AMS (H. Attard) Feb 2014
- Travel Grant for the AMS 17th Middle Atmosphere Conference, Newport RI (H. Attard) May 2013

Professional Service

- Councilor, Leadership Council of the American Meteorological Society 2020 – present
- Associate Editor, *Monthly Weather Review* 2014,2015, 2019 – present
- Chair, AMS Ad-hoc Committee on Minding the Gap, charged with facilitating recommendation NSF workshop to address the gap in education and employment in the private sector into action within the framework of the AMS. 2020 – present
- Member, AMS Board of Enterprise Economic Development (BEED), includes membership on the planning committee of the AMS Washington Forum 2020 – present
- Ambassador, AMS Committee for Hispanic and Latinx Advancement (CHALA) 2020 – present
- Member, Interagency Weather Research Working Group (IWRWG), Federal Weather Enterprise (FWE) and coordinated by the Office of the Federal Coordinator for Meteorology (OFCM; www.ofcm.gov) 2018 – present
- Steering Committee, Stratospheric Network for the Assessment of Predictability (SNAP). An activity of the World Climate Research Programme/Stratosphere-troposphere Processes And their Role in Climate (WCRP/SPARC) and a sub-project of the WCRP/WWRP S2S Prediction Project 2013 – present
- Reviewer, NOAA/CPO Proposal Reviewer May 2021
- Member, AMS Middle Atmosphere Committee 2018 – 2021
- Co-Lead, NOAA/CPO/MAPP Task Force on Subseasonal-to-Seasonal (S2S) Prediction (<https://cpo.noaa.gov/Meet-the-Divisions/Earth-System-Science-and-Modeling/MAPP/MAPP-Task-Forces/S2S-Prediction-Task-Force>) 2016 – 2020
- Panelist, “Mind the Gap: Preparing Students for the Real World.” Eighth Conference for Early Career Professionals at the 2020 AMS Annual Meeting, Boston, MA Jan 2020
- Guest Editor, *Journal of Geophysical Research – Atmospheres*, Special Collection on “Bridging Weather and Climate: Subseasonal-to-Seasonal Prediction” 2018 – 2019
- NSF Workshop Co-organizer, Mind the Gap: Educating the Next Generation of Atmospheric Scientists for Industry Needs. NCAR, Boulder, CO. 10-12 July 2019
- Panel Moderator, “Mind the Gap: Addressing the educational and pedagogical challenges preparing students with the skills needed for success in the private sector.” Joint session between the 28th Symposium on Education, the Seventh Symposium on the Weather, Water, and Climate Enterprise, as well as the 10th Conference on Weather, Climate, and the New Energy Economy at the 2019 AMS Annual Meeting, Phoenix, AZ 7 Jan 2019
- Session Chair, “The role of the stratosphere in climate variability and change.” Joint session between the 32nd Conference on Climate Variability and Change and the 20th Conference on Middle Atmosphere at the 2019 AMS Annual Meeting, Phoenix, AZ 9 Jan 2019
- Board Member, Subseasonal Forecast Contest, 2019
https://www.wxprediction.com/ForecastContest/main_login.php
- Reviewer, NSF, *Monthly Weather Review*, *Journal of Atmospheric Science*, *Weather and Forecasting*, *Journal of Climate*, *Quarterly Journal of the Royal Meteorological Society*, *AMS Glossary of Meteorology*, *Bulletin of the American Meteorological Society*, *Geophysical Research Letters*, *Atmospheric Chemistry and Physics*, *Encyclopedia of Atmospheric Science*, *Nature-Climate and Atmospheric Sciences*, *International Journal of Climatology* 2011 – present

- Research and Science Consultant 2014 – 2019
- Invited Contributor, WCRP/WWRP S2S Prediction Project Steering Group Meeting, Boulder, CO 21-22 Sept 2018
- Invited author for American Meteorological Society definition of *Polar Vortex*. 2015
- Associate Editor, *Monthly Weather Review* 2014 – 2015
- Associate Editor, *Weather and Forecasting* 2014 – 2015
- Judge, 94th AMS Annual Meeting student poster competition January 2014
- Workshop Organizer, NCL Workshop at University at Albany, SUNY. The NCAR Command Language (NCL) is an interpreted computer language designed for scientific data analysis and visualization. The 3.5-day workshop provided a lecture and hands-on labs for participants to learn NCL for their atmospheric science related research. May 2013

University, College and Department Service

University Service

- Member, University Women's Council 2021
- Faculty Advisor & Liaison for developing internship opportunities via the UAlbany–Industry collaboration within the UAlbany Center of Excellence 2017 – 2019
- Member, Critical Diversity Education and Building Capacity (CDEBC) Advisory Committee to the President's Council on Diversity and Inclusion, Office of Diversity and Inclusion 2017 – 2018
- Speaker, Univ. at Albany Accepted Student Open House 22 April 2017
- Panelist, Workshop on Intersectionality and the Academic Job Market co-hosted by the UAlbany's Graduate Student Association and Future Faculty Leadership Council. 11 November 2016
- Speaker, Univ. at Albany Accepted Student Open House 6 April 2014
- Speaker, Univ. at Albany Accepted Student Open House 13 April 2013

College Service

- Member, Diversity and Climate Committee, College of Arts & Sciences 2019 – present
- Transfer Advising Liaison for Atmospheric Science B.S., Advisement Services Center 2017 – 2018
- Panelist, Women in Science and Health in the College of Arts & Sciences workshop on "Women and Underrepresented Minorities in STEM: Challenges and Opportunities" 17 Nov 2017
- Presenter, Women in Science and Health in the College of Arts & Sciences workshop on "Work-Life Balance" 7 April 2016
- Faculty Representative, Univ. at Albany Winter Commencement 16 Dec 2012
- Member, Director Search Committee, Atmospheric Science Research Center Summer/Fall 2012

Department Service

- Program Coordinator, Masters in Applied Atmospheric Sciences, developed new degree program and curriculum 2018 – present
- Member, Inclusion and Diversity Committee, Department of Atmospheric and Environmental Sciences 2017 – present
- Member, Graduate Curriculum Committee, Department of Atmospheric and Environmental Sciences 2018 – present

- Member, Faculty Search Committee, Department of Atmospheric and Environmental Sciences, Earth Systems and Climate 2019 - 2020
- Member, Undergraduate Curriculum and Recruiting Committee, Department of Atmospheric and Environmental Sciences 2013 - 2018
- Representative, Sustainability Green Roof effort informing the SUNY/UAlbany new building design 2014 - 2018
- Member, Faculty Search Committee, Department of Atmospheric and Environmental Sciences, Mesoscale Dynamics and Modeling Fall 2013/Spring 2014
- Faculty Representative, Univ. at Albany Faculty for undergraduate recruitment online chats on CollegeWeekLive.com Dec 2013
- Member, Faculty Search Committee, Department of Atmospheric and Environmental Sciences, Cryosphere/Ocean Dynamics and Weather-Climate Interaction Fall 2012/Spring 2013
- Member, Faculty Search Committee, Department of Atmospheric and Environmental Sciences, Hydrometeorology Fall 2011/Spring 2012

Outreach & Public Engagement

- Active research/science/outreach Twitter account: @alopezlang
- Speaker, "What is the polar vortex?" Honors College Lecture Series, University at Albany, SUNY. Albany, NY, 15 March 2021
- Speaker, Science Night Lecture Series, Niskayuna High School, 19 March 2019
- Presenter, EUREKA! Program, Girls Inc. Camp for 8th and 9th grade girls, 9 July 2018
- Presenter, Weather & Climate Workshop for STEM 9-12 Teachers, 18 July 2017
- Speaker, Thomas Jefferson Symposium to Advance Research (tjSTAR) at Thomas Jefferson High School for Science and Technology, Alexandria, VA. An annual, daylong symposium that includes discussions of research opportunities and potential careers. 6 June 2017.
- Instructor, New York State Master Teacher Program Mini-Course. Three 2-hour courses that contribute to the NYS high school teacher continuing education program to advance teacher understanding in STEM. Fall 2016.
- Panelist, "Facing the Storm," Nelson A. Rockefeller Institute of Government. November 2016.
- Speaker, "The polar vortex, Facts and Fiction" Honors College Lecture Series, University at Albany, SUNY. Albany, NY, 29 October 2014.

Media Contributions

- Popular Science, magazine interview (11 Jan 2021)
<https://www.popsci.com/story/environment/polar-vortex-split-2021/>
- National Geographic, magazine interview (1 April 2021)
<https://www.nationalgeographic.com/environment/article/big-winter-snows-in-north-could-be-fueled-by-arctic-sea-ice-loss>
- Vice, Online News interview (20 June 2020)
https://www.vice.com/en_us/article/ep45be/siberias-heat-wave-triggered-an-arctic-sea-ice-melt-down
- Washington Post, Washington, DC, Newspaper interviews (10 & 19 Feb, 29 April, 2020)
<https://www.washingtonpost.com/weather/2020/02/10/record-arctic-oscillation/>
<https://www.washingtonpost.com/weather/2020/02/19/polar-vortex-is-approaching-record-strength-thats-not-scary-thing/>
<https://www.washingtonpost.com/weather/2020/04/29/how-record-strong-polar-vortex-assisted-troubled-arctic-research-expedition/>
- Mashable, Online News interview (6 Feb 2020 & 8 Feb 2021)
<https://mashable.com/article/polar-vortex-2021-cold-temperatures/>
<https://mashable.com/article/why-winter-2020-mild-east-coast/>

- Times Union, Albany, NY, Newspaper interview (15 May 2018)
<https://www.timesunion.com/news/article/Local-female-scientist-discovered-greenhouse-12845254.php>
- Mashable, Online News interview. (5 Jan 2018)
<http://mashable.com/2018/01/05/bomb-cyclone-satellite-images-record-intensification-rate>
- The Verge, Vox Media, Online News interview. (4 Jan 2018)
<https://www.theverge.com/2018/1/3/16846134/bomb-cyclone-winter-storm-east-coast>
- Earther, Gizmodo Media, Online News interview. (4 Jan 2018)
<https://earther.com/the-bomb-cyclone-looks-unreal-from-space-1821771290>
- Earther, Gizmodo Media, Online News interview. (3 Jan 2018)
<https://earther.com/what-is-this-bomb-cyclone-thing-about-to-blast-the-east-1821736336>
- *The Academic Minute*, nationally syndicated radio/podcast on the ‘Polar Vortex’. (2 Jan 2018)
<https://academicminute.org/2018/01/andrea-lang-university-at-albany-what-is-the-polar-vortex/>
- Times Union, Albany, NY, Newspaper interview. (8 Dec 2017)
<https://www.timesunion.com/business/article/Polar-vortex-arctic-blast-headed-for-Capital-12413047.php>
- Times Union, Albany, NY, Newspaper interview. (17 May 2016)
<http://www.timesunion.com/tuplus-business/article/Fickle-spring-plays-havoc-with-crops-7513790.php>
- Times Union, Albany, NY, Newspaper interview. (23 Dec 2015)
<http://www.timesunion.com/tuplus-business/article/Businesses-shudder-over-winter-s-warmth-6721922.php>
- The Sun, Elizabethtown, NY, Newspaper Interview. (18 Dec 2015)
<http://www.suncommunitynews.com/articles/mild-weather-presents-mixed-verdict/>
- Times Union, Albany, NY, Newspaper interview. (31 Oct 2015)
<http://www.timesunion.com/local/article/Polar-vortex-may-help-winter-come-in-like-a-lamb-6604363.php>
- *Capitol Green Scene*, WVCR-FM, Albany, NY, guest expert on ‘the polar vortex’ in 30 minute radio talk show. (5 Dec 2014)
- *Weather Geeks*, The Weather Channel, Atlanta, GA, TV guest expert on ‘the polar vortex’ for a 30 minute episode (23 Nov 2014)
<http://www.weather.com/tv/shows/wx-geeks/video/will-the-real-polar-vortex-stand-up-pt-1>
<http://www.weather.com/tv/shows/wx-geeks/video/will-the-real-polar-vortex-stand-up-pt-2>
<http://www.weather.com/tv/shows/wx-geeks/video/will-the-real-polar-vortex-stand-up-pt-3>
- Times Union, Albany, NY, Newspaper interview. (10 Nov 2014)
<http://www.timesunion.com/business/article/Fuel-s-here-for-chill-5884321.php>
- Times Union, Albany, NY, Newspaper interview. (14 Oct 2014)
<http://www.timesunion.com/business/article/Weather-eye-for-polar-vortex-5823233.php>
- BBC Science, London, UK, Science advisor for a documentary. (Jan-Feb 2014)
- CBS 6, Albany, NY, TV interview. (1 Jul 2013; 8 Jan 2013)

Professional Development

- Women in Science and Health (WISH), University at Albany 2014 – present
- AMS Short Course on Machine Learning in Python 6 Jan 2019
- AMS Early Career Leadership Academy Workshop 26–27 April 2018
- NY State Implicit Bias Intensive Training Convening 8 Nov 2017
- Dialogues in Action Series, Office of Diversity and Inclusion, University at Albany Fall 2017
- Faculty Success Program, National Center for Faculty Development and Diversity Jan – May 2015
- State University of New York (SUNY) Science, Technology, Engineering and Math (STEM) Conference: Broadening Participation in STEM, Albany, NY 10–11 Oct 2013
- NCL Workshop at University at Albany, SUNY 20–24 May 2013
- Certificate through the Delta Program Research, Teaching and Learning at the University of Wisconsin – Madison 2011

- Conference of Ford Fellows, The National Academies of Science, Engineering, and Medicine 16-17 Oct 2009
- National Center for Atmospheric Research, WRF/CHEM Workshop 21-24 June 2008

Affiliations & Memberships

- American Meteorological Society
- American Geophysical Union
- Earth Science Women's Network