

CURRICULUM VITAE (short form)

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Zhaoxia Pu

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PROFESSIONAL APPOINTMENTS

- 2021-Present *Member*, NOAA Science Advisory Board, NOAA/DOC
- 2014-Present *Professor*, Department of Atmospheric Sciences, University of Utah
- 2011-Present *Professor, (Affiliated faculty)*, Global Change and Sustainability Center, University of Utah
- 2010- 2014 *Associate Professor*, Dept. of Atmospheric Sciences, University of Utah
- 2004-2010 *Assistant Professor*, Dept. of Atmospheric Sciences, University of Utah
- 2000-2004 *Associate Research Scientist*, Goddard Earth Sciences and Technology Center, UMBC and NASA Goddard Space Flight Center, Greenbelt, MD
- 1998-2000 *Research Scientist*, Universities Space Research Association and NASA Goddard Space Flight Center, Greenbelt, MD
- 1997-1998 *UCAR Postdoctoral Fellow* at Environmental Modeling Center, NCEP, NOAA, Washington, D. C.
- 1993-1996 *UCAR Visiting Scientist (Ph.D. Student Fellow)*, Environmental Modeling Center, NCEP/NOAA, Washington, D. C.

RESEARCH EXPERIENCES & INTERESTS

- Numerical Weather Prediction
- Ensemble Kalman filter; Four-dimensional variational data assimilation
- Satellite and Radar Data Assimilation
- Predictability of High-Impact Weather and Extremes
- Observing System Simulation Experiments & Strategies
- Hurricane and Tropical Convection
- Land-Atmosphere Interaction and Coupled Land-Atmosphere Data Assimilation
- Atmospheric Boundary Layer over complex terrain
- Artificial Intelligence and Machine Learning

EDUCATION

- Ph.D. 1997: Meteorology/Atmospheric Sciences, Lanzhou University, China. (Thesis research completed at Environmental Modeling Center, NCEP/NOAA, Washington, DC, USA)
- M.S. 1992: Meteorology/Atmospheric Sciences, Lanzhou University, China
- B.S. 1989: Meteorology, Lanzhou University, China

SELECTED HONORS, AWARDS, AND RECOGNITIONS

- 2019 Fellow, American Meteorological Society

- 2012 Outstanding Faculty Teaching Award, College of Mines and Earth Sciences, University of Utah
- 2010 Fellow, Royal Meteorological Society
- 2000 Outstanding Achievement Award, Code 912, Laboratory for Atmospheres, NASA Goddard Space Flight Center.

SELECTED LEADERSHIP ACTIVITIES

• Science Teams and Science Advisory Board

- 2021- Present Member, Core study team/Executive team, Congress mandated NOAA Priorities for Weather Research (PWR) study team.
- 2019-present NCAR Computational Information System Laboratory (CISL) High-performance computing Allocation Panel (CHAP) member
- 2018- present US NWP Cal/Val Science Team Member, *ADM/Aeolus* Satellite Mission, European Space Agency.
- 2018- 2021 Science advisory board member, UCAR Development Testbed Center (DTC)
- 2018- present Member of the Applications Team, NASA TROPICS Satellite Mission
- 2017- present Science team member, NOAA Climate Program (CVP) Years of Maritime Continent (YMC) Science
- 2016-present Science team member, Data assimilation and hurricane working group leader (2021-present), NASA Cyclone Global Navigation Satellite System (CYGNSS) Satellite Mission
- 2015- 2019 Science team member, NASA Energy and Water Cycle Program
- 2014/Oct. Member, Department of Energy Atmospheric Radiation Measurement (DOE/ARM) Value-added Products, User Strategic Planning Meeting (Invited)
- 2013-present Member, NOAA Hurricane Forecast Improvement Project (HFIP) data assimilation strategies team
- 2009-present Member, Space-based Wind Lidar Working Group, USA

• Expert panels

- 2021/04 NSF Review Panel, *National AI institution*
- 2021/01 NASA Review Panel, *New Investigator Program*
- 2020/05 DOE Review Panel, *Early Career Program*
- 2019/10 NASA Review Panel, *Decadal Survey Incubation Study Teams*
- 2019/06 NSF Review Panel, *Cyberinfrastructure for Sustained Scientific Innovation (CSSI)*
- 2018/01 NASA Review Panel, *Ocean Vector Winds Science Team*
- 2017/09 NASA Review Panel, *The Science of TERRA, AQUA, and SUOMI NPP*
- 2017/02 NASA Review Panel, *Modeling, Analysis, and Prediction (MAP) Program*
- 2017/01 NSF Review Panel, *PREEVENTS Track 2*
- 2016/12 Review Panel, *Chinese Meteorological Administration key research project*
- 2016/09 NASA Review Panel, *NASA Data for Operational Applications (NDOA)*
- 2015/08 Review Panel, *NSF Earth Cube Program*
- 2014 NSF Review Panel, *Graduate Research Fellowship Program*

• Editor boards

- 2016 – date Editor, *Weather and Forecasting* (**Gold Star Editor, 2019**), AMS
- 2016 – date Editor, *Journal of Meteorological Research*, Springer, (SCI-E journal)
- 2014- date Organizer, AMS Journal Special Collection – MATERHORN
- 2009-2010 Guest Chief Editor, Special issue “Advanced Data Assimilation and Predictability

Studies on High-Impact Weather and Climate”, *Advances in Meteorology*

- **AMS committee**

- 2012-2015 Chair, American Meteorological Society (AMS) annual meeting oversight committee
- 2010-2012 Member, AMS annual meeting oversight committee
- 2006-2012 Member, AMS Weather Analysis and Forecasting Committee

- **Conference chairs**

- 2022 Conference Program Chair, 27th Conference on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS). January 4-8, 2023, 103rd AMS annual Meeting, Denver, CO.
- 2016 Overall Program Chair (with Mary Cairns) for 96th AMS annual meeting, January 9-15, 2016, New Orleans, LA
- 2011 Conference Program Chair (with Carolyn Reynolds), AMS 24th conference on weather and forecasting and 20th conference on numerical weather prediction, January 23-27, 2011. Seattle, WA.
- 2007 Conference Program Chair, AMS 22nd Conference on Weather and Forecasting and 18th Conference on Numerical Weather Prediction, June 25-29, 2007, Park City, UT, USA

- **University Leadership**

- Committee Chair, Linda K. Amos Award, 2022, University of Utah
- Director of Graduate Studies (DOGS), Department of Atmospheric Sciences, University of Utah, 12/2004-06/2012; 07/2013/-06/2018
- Executive Committee Member, University of Utah Chapter, Utah Woman in High Education Network, (2021/07-present)
- Co-Chair, University Diversity Committee, University of Utah (07/2013 - 06/2014)

FIELD PROGRAM PARTICIPATION AND LEADERSHIP

- 2022, Project Leader, Cold Fog Amongst Complex Terrain (CFACT), NSF. Heber Valley, Utah
- 2021, Research Investigator/Mission Support Scientist, NASA Convective Processes Experiment – Aerosols and Winds (CEPX-AW) field campaign. Eastern Atlantic (St. Croix Virgin Island).
- 2020, Research Investigator/Mission Support Scientist, NASA Convective Processes Experiment – Aerosols and Winds (CEPX-AW) field campaign dry-run.
- 2017, Research Investigator, Convective Processes Experiment (CPEX), NASA, Gulf Mexico.
- 2015, Research Investigator, Tropical Cyclone Intensification (TCI) 2015 field program, Office of Naval Research (ONR). The Atlantic Ocean.
- 2015, Research Investigator and Mission Scientist, Mountain Terrain Atmospheric Modeling and Observations (MATERHORN)-Fog(ONR), Heber Valley, Utah
- 2014, Research Investigator, Tropical Cyclone Intensification (TCI) 2014 field program, Office of Naval Research (ONR), Atlantic Ocean.
- 2013, Research Investigator and Mission Scientist, Mountain Terrain Atmospheric Modeling and Observations (MATERHORN) (ONR), Dugway Proving Ground, Utah
- 2012, Research Investigator and Mission Scientist. Mountain Terrain Atmospheric Modeling and Observations (MATERHORN) (ONR), Dugway Proving Ground, Utah.
- 2008, Mission support scientist, International TPARC/TCS08 field program, Western Pacific Ocean (Monterey Operational Center, CA)
- 2006, Research co-Investigator, NASA African Monsoon Multidisciplinary Analyses (NAMMA) field program. Eastern Atlantic Ocean.

- 2005, Research co-Investigator, NASA Tropical Cloud System Processes (TCSP) Program. The Atlantic Ocean.

PROFESSIONAL MEMBERSHIP

- American Association for the Advancement of Science (AAAS)
- American Meteorological Society (AMS)
- Royal Meteorological Society (RMS)
- American Geophysical Union (AGU)

COURSE TAUGHT AND MENTORING

- Course taught
 - Numerical Weather Prediction (2004-2021)
 - Atmospheric Dynamics (2004-2022)
 - Introduction to Atmospheric Sciences (2004-2020)
 - Graduate Seminar
 - Graduate Special Topics
 - Advanced data assimilation
 - Ensemble forecasting and predictability
 - Extreme weather systems
 - Mesoscale dynamics, modeling, and predictability
 - Observing system simulation experiments
 - Big data and machine learning
 - Land-Atmosphere coupling and data assimilation
 - Boundary layer and parameterization
 - Hurricane and precipitation
- Postdocs advised: 8
- Visiting scientists/scholars advised: 11
- MS students advised: 12
- Ph.D. students advised: 15
- Undergraduate research advised: 7
- Graduate student supervisory committee: 33
- Supervised postdocs and early career scientists to develop awarded lead PI and Co-PI proposals.

INVITED KEYNOTE SPEECHES, SEMINARS, TALKS: 69

CONFERENCE PRESENTATION: 288

FUNDED GRANTS

34 awarded grants from NOAA, NSF, NASA, DOD with a total amount of \$11.25 million (over \$9 million as PI).

PUBLICATIONS (See full list of journal articles <https://www.inscc.utah.edu/~pu/myhome/publication.html>)

- 117 peer-reviewed journal articles
- 1 translated textbook
- 7 book chapters
- 3 Government Office Notes