XIUYUAN DING

Postdoctoral Research Associate
AOS/CIMES, Princeton University/NOAA Geophysical Fluid Dynamics Laboratory (GFDL)
Email: xd5075@princeton.edu / Xiuyuan.Ding@noaa.gov Website: xiuyuand.com

EDUCATION

University of California, Los Angeles, CA, USA 09/2019–06/2024
Ph.D. in Atmospheric and Oceanic Sciences (Jun 2024)
M.S. in Atmospheric and Oceanic Sciences (Jun 2021)
Advisor: Prof. Gang Chen

Lanzhou University, Lanzhou, China 09/2015–06/2019
B.S. in Atmospheric Sciences

ACADEMIC EMPLOYMENT

Princeton University, Princeton, NJ, USA 09/2024–Present
Postdoctoral Research Associate working on the role of the stratosphere in S2S prediction

Lawrence Livermore National Laboratory, Livermore, CA, USA 06/2024–09/2024
Summer Intern working on wildfire plumes in a regionally refined storm-resolving model

PUBLICATIONS

Ding, X., Xiang, B., et al. (2025). Stratospheric Wave Predictability Enhances S2S Surface Forecasts over North America. *Submitted.*

Ding, X., Tang, Q., Chen, G., Ke, Z., Zhang, J., & Shi, Y. (2025). Mechanisms for Stratospheric Aerosol Injection by Wildfires: Roles of Circulation. *In revision.*

Chen, G. & **Ding, X.** (2024). Evaluating the Dynamic Modes of Stratosphere-Troposphere Coupling in Northern Annular Modes (NAM) in CMIP6 Models. *In revision at GRL.*

Ding, X., Chen, G., Wang, Y., & Sun, L. (2025). Demystifying the drivers of the spring warming asymmetry between Eurasia and North America. *Science Advances*, *11*(22), eadu2364. https://doi.org/10.1126/sciadv.adu2364

Ding, X., Chen, G., & Magnusdottir, G. (2024). North American cooling signature of strong stratospheric wave events depends on the QBO phase. *Environmental Research: Climate*, *3*, 031006. https://doi.org/10.1088/2752-5295/ad53f6

Ding, X., Chen, G., & Ma, W. (2023). Stratosphere-Troposphere Coupling of Extreme Stratospheric Wave Activity in CMIP6 Models. *Journal of Geophysical Research: Atmospheres*, *128*, e2023JD038811. https://doi.org/10.1029/2023JD038811 [Editor's Highlight]

Ding, X., Chen, G., Zhang, P., Domeisen, D. I. V., & Orbe, C. (2023). Extreme stratospheric wave activity as harbingers of cold events over North America. *Communications Earth & Environment*, *4*, 187. https://doi.org/10.1038/s43247-023-00845-y

Ding, X., Chen, G., Sun, L., & Zhang, P. (2022). Distinct North American Cooling Signatures Following the Zonally Symmetric and Asymmetric Modes of Winter Stratospheric Variability. *Geophysical Research Letters*, *49*(6), e2021GL096076. https://doi.org/10.1029/2021GL096076

SEMINARS

Climate Program CWSS Seminar, Lawrence Livermore National Laboratory. (Aug 2024)

AOS Department Seminar, University of California, Los Angeles. (Apr 2024)

UNIL Atmospheric Processes Group Seminar, University of Lausanne, Switzerland. (Feb 2024)

SELECTED CONFERENCES

AGU 2024 Fall Meeting, Washington, DC: The Masked Effect of Anthropogenic Aerosols in Driving Zonally Asymmetric Warming Trends in Boreal Spring. (Dec 2024, Poster)

AMS Annual Meeting 2024, Baltimore, MD: Strong Stratospheric Wave Events Precede North American Cold Extremes. (Jan 2024, **Invited**)

AGU 2023 Fall Meeting, San Francisco, CA: The Impact of QBO on the Surface Signature of Strong Stratospheric Wave Events. (Dec 2023, Poster)

DynVar/SNAP Workshop, Munich, Germany: Stratospheric Wave Precursor of Cold Events over North America. (Oct 2023, Oral)

S2S Summit 2023, Reading, UK: Causality between Extreme Stratospheric Wave Activity and Cold Extremes over North America. (Jul 2023, Poster)

EGU General Assembly 2023, Online: Assessing Stratosphere-troposphere Coupling of Extreme Stratospheric Wave Activity in CMIP6 Models. (Apr 2023, Oral)

AGU 2022 Fall Meeting, Chicago, IL: Examining the Causality between Stratospheric Planetary Wave Activity and North American Cold Extremes. (Dec 2022, Oral)

4th Annual California Geophysical Fluid Dynamics (CalGFD) Meeting 2022, Pasadena, CA: Disentangling the Causality between Stratospheric Planetary Wave Activity and North American Cold Events. (Aug 2022, Oral)

2022 NCAR ASP Colloquium Workshop, Boulder, CO. (Jul 2022, Poster)

AMS Annual Meeting 2022, Online: Distinct North American Cooling Signatures Following the Zonally Symmetric and Asymmetric Modes of Stratospheric Variability in the Northern Hemisphere Winter. (Jan 2022, Oral)

HONORS AND AWARDS

Jacob A. Bjerknes Award, Dept. of AOS, UCLA 01/2025
For outstanding research achievements by graduate students (dissertation award)

Travel Support for DynVar/SNAP Workshop 07/2023

Dissertation Year Fellowship, UCLA 06/2023

Paul M. Furukawa Memorial Fellowship, Dept. of AOS, UCLA 09/2022

NCAR ASP Colloquium Travel Award 06/2022

Outstanding Bachelor's Thesis, Lanzhou University 05/2019

Outstanding Student Scholarship, Lanzhou University 06/2017

TEACHING EXPERIENCE

Teaching Assistant of AOS 3 – Meteorology and Extreme Weather, 2023 Spring

Special Reader of AOS C170/C227 – Advanced Dynamics and Synoptic Meteorology, 2023 Winter

Teaching Assistant of AOS 51 – Fundamentals of Climate Science, 2022 Spring

SERVICE

Reviewer for: *Nature Communications, npj Climate and Atmospheric Science, Geophysical Research Letters, Journal of Geophysical Research: Atmospheres, Journal of Climate, Atmospheric Chemistry and Physics, Climate Dynamics, Weather and Climate Dynamics, Journal of Meteorological Research*

Outstanding Student Presentation Awards reviewer, AGU Fall Meeting, 2024

Poster contest judge, AMS Student Conference, 2024

Session chair, DynVar/SNAP Workshop in Munich, 2023

Volunteer, S2S Summit at University of Reading, 2023

Volunteer, Exploring Your Universe at UCLA, 2021, 2022

Student representative, AOS 270 seminar committee, UCLA, 2022–2023

MENTORING

Graduate mentees: Rui Zhang (2024, co-supervised with Gang Chen), Jacob Chen (2022–2023, co-supervised with Gang Chen), He Huang (2022, co-supervised with Gang Chen)

Undergraduate mentees: Claire Fu (2021, co-supervised with Gang Chen)