

Lei Wang, Ph.D.

Assistant Professor, Purdue University

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RESEARCH INTERESTS

I am an atmospheric dynamist. My research focuses on the fundamental dynamics and variability of mid-latitude atmospheric waves, especially high-impact extreme weather and climate events.

EDUCATION

The University of Chicago, Chicago, IL, U.S.A.

December 2016

Ph.D., Geophysical Sciences

- Dissertation: Periodic Behavior of Finite-amplitude Wave Activity in the Southern Hemisphere Storm Track
- Advisory committee: Drs. [Noboru Nakamura](#) (chair), Douglas MacAyeal, Malte Jansen, Tiffany Shaw, Edwin Gerber (external committee, New York University)

Ocean University of China, Qingdao, China

June 2010

B.S., Atmospheric Sciences

- Graduated with highest honor in college as *Wenyuan Award* (0.06% of the graduation class)
- Thesis: The Response of ENSO under the Impact of Pacific Decadal Oscillation.
- Advisor: Dr. [Lixin Wu](#)

RESEARCH ACTIVITIES

Harvard University, Cambridge, MA

Post-doctoral Fellow, Department of Earth and Planetary Sciences

2017 – 2020

Woods Hole Oceanographic Institution, Woods Hole, MA

Guest Student Appointment, Physical Oceanography Department,

June-August 2014

PROFESSIONAL ACTIVITIES

Organizer for **Harvard Climate** Seminar series, **Harvard ClimaTea** Seminar and Journal club series, **Harvard Climate Modeling** Workshops, **Harvard Crimson Climate** workshop. 2018 -

Committee Member on the Atmospheric and Oceanic Fluid Dynamics (AOFD) Committee, American Meteorological Society. 2014 – 2016

Reviewer for *US National Science Foundation*; *Journal of the Atmospheric Sciences*; *Climate Dynamics*; *Journal of Climate*; *Geophysical Research Letters*; *AMS Glossary of Meteorology*; *AGU Book Proposal Review*; *Remote Sensing of Environment*; *Journal of Nonlinear Science*; *Journal of Meteorological Research*; *Quarterly Journal of the Royal Meteorological Society*.

Primary Convener for a session (with Simona Bordoni, Gang Chen, and Isla Simpson) “[The Dynamics of the Large Scale Atmospheric Circulation in Present and Future Climates: Jet Streams, Storm Tracks, Stationary Waves, and Monsoons](#)” in the 2017 2018 2019 2020 AGU Fall Meeting

AWARDS

HeldFest Scholarship, Princeton University, 2018
Selected as alternate awardee for the 2017 NOAA Climate and Global Change fellowship Geophysical Science Chair's Travel Grant, The University of Chicago, 2015
Wenyuan Fellowship and Presidential Fellowship, Ocean University of China, 2010; **National Fellowship**, Ministry of Education of China. Awarded three times, 2008, 2009, 2010

PUBLICATIONS

- 2021 **Wang, Lei** and Zhiming Kuang: Evidence against a general positive eddy feedback in atmospheric blocking *Geophysical Research Letters* (in revision)
- 2021 **Wang, Lei** et al: Polar Amplification in CESM is Dominated by Extra-Polar Forcing and Resultant Feedback *Geophysical Research Letters* (in revision)
- 2021 Ned Kleiner, Pak Wah Chan, **Lei Wang**, Ding Ma, Zhiming Kuang: Effects of Climate Model Mean-State Bias on Blocking Underestimation (in revision)
- 2021 **Wang, Lei** and Jian Lu: Uniform warming as the main cause of the robust increase of the intra-seasonal variability in a warming climate (submitted)
- 2018 Coumou, Dim, Giorgia Di Capua, Stephen Vavrus, **Lei Wang**, and Simon Wang: The Influence of Arctic Amplification on Mid-Latitude Summer Circulation. *Nature Communication*
<https://doi.org/10.1038/s41467-018-05256-8> (an invited review article)
- 2018 **Wang, Lei**, Jian Lu, and Zhiming Kuang: A robust increase of the intra-seasonal periodic behavior of the precipitation and eddy kinetic energy in a warming climate. *Geophysical Research Letters*
DOI: <https://doi.org/10.1029/2018GL078495>
- 2016 **Wang, Lei**, and Noboru Nakamura: Covariation of finite-amplitude wave activity and the zonal mean flow in the mid-latitude troposphere. Part 2: Eddy forcing spectra and the periodic behavior in the Southern Hemisphere summer. *Journal of Atmospheric Sciences*.
DOI: <http://dx.doi.org/10.1175/JAS-D-16-0091.1>
- 2016 **Wang, Lei**, and Sukyoung Lee: The role of fast eddies on poleward jet shift of non-advective mean flow. *Journal of Atmospheric Sciences*. DOI: <http://dx.doi.org/10.1175/JAS-D-16-0082.1>
- 2016 **Wang, Lei**, Malte Jansen, and Ryan Abernathey: Eddy phase speeds in a two-layer model of quasigeostrophic baroclinic turbulence with applications to ocean observations. *Journal of Physical Oceanography*. DOI: <http://dx.doi.org/10.1175/JPO-D-15-0192.1>
- 2015 **Wang, Lei**, and Noboru Nakamura: Covariation of finite-amplitude wave activity and the zonal mean flow in the midlatitude troposphere. Part 1: Theory and application to the Southern Hemisphere summer, *Geophysical Research Letters*. DOI: [10.1002/2015GL065830](https://doi.org/10.1002/2015GL065830)
- 2013 Nakamura, Noboru, and **Lei Wang**: On the Thickness Ratio in the Quasigeostrophic Two-Layer Model of Baroclinic Instability. *Journal of Atmospheric Sciences*.
DOI: <http://dx.doi.org/10.1175/JAS-D-12-0344.1>