

Ziwei Li

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Curriculum Vitae, Updated to: March 15, 2021

EDUCATION

Massachusetts Institute of Technology

Ph.D. Candidate, Dept. of Earth, Atmospheric and Planetary Sciences
Cumulative GPA: 4.8/5.0

Cambridge, MA

Sep. 2016 - present

Peking University

BSc., Dept. of Atmospheric and Oceanic Sciences, School of Physics
Cumulative GPA: 3.53/4.00, Major GPA: 3.86/4.00

Beijing, China

Sep. 2012 - Jun. 2016

RESEARCH INTEREST

- Atmospheric dynamics, hydrological cycle, and precipitation extremes
- Low-dimensional chaos, machine learning, statistical physics and complex systems

RESEARCH EXPERIENCE

A Stochastic Model for Convective Organization

Supervisor: Paul O’Gorman and Daniel Rothman (MIT)

March 2020 - present

Tropical Precipitation Clusters as Islands on a Rough Water-vapor Topography

Supervisor: Paul O’Gorman and Daniel Rothman (MIT)

June 2019 - present

Neural Networks as Geometric Chaotic Maps

Supervisor: Sai Ravela (MIT)

Sept. 2017 - present

Improved Understanding of the Response of Mean and Extreme Precipitation to Climate Change

Supervisor: Paul O’Gorman (MIT)

Sept. 2016 - Jun. 2020

The impact of deformation radius on jets in 2D Quasi-Geostrophic Model

Supervisor: Andrew P. Ingersoll (Caltech)

Jun. 2015 - Jun. 2016

Stratospheric Water Vapor Feedback

Supervisor: Yongyun Hu (Peking University)

Apr. 2014 - Oct. 2015

TEACHING EXPERIENCE

- Teaching assistant for MIT 8.03, Physics III: Waves and Vibrations Fall, 2019

PRESENTATIONS

- **Ziwei Li**, Paul A. O’Gorman and Dan Rothman, 2021: Understanding the characteristics and dynamics of tropical precipitation, [Climate Dynamics group](#)

- **Ziwei Li** and Paul A. O’Gorman, 2019: Response of vertical velocities in extratropical precipitation extremes to climate change, 22nd Conference on atmospheric and oceanic fluid dynamics, Portland, Maine.
- **Ziwei Li**, Paul A. O’Gorman, and Daniel Rothman, 2019: The power-law distribution of tropical precipitation clusters, AGU fall meeting, San Francisco.
- **Ziwei Li** and Paul A. O’Gorman, 2018: Quasi-geostrophic analysis of vertical velocities in extra-tropical precipitation extremes, AGU fall meeting, Washington DC.
- **Ziwei Li**, Cheng Li., and Andrew Ingersoll, 2015: Looking into jet formation on Jupiter using a geostrophic model, Yuk Lunch Seminar at Caltech.

PUBLICATIONS

- **Ziwei Li**, Paul O’Gorman, and Dan Rothman, 2021: Tropical precipitation clusters as islands on a rough water-vapor topography, *in prep*
- Yakun Liu, Earle Williams, **Ziwei Li**, Anirban Guha, Jeff Lapierre, Micheal Stock, Stan Heckman, Yijun Zhang, and Elizabeth DiGangi, 2021: Lightning enhancement in moist convection with smoke-laden air advected from Australian wildfires, *Geophysical Research Letters*, *in revision*
- **Ziwei Li** and Sai Ravela, 2020: Neural networks as geometric chaotic maps, *IEEE Transactions of Neural Networks and Learning Systems*, *in revision*
- Paul A. O’Gorman, **Ziwei Li**, William R. Boos, and Janni Yuval, 2020: Response of extreme precipitation to climate warming in quasi-global aquaplanet simulations at high resolution, *Philosophical Transactions A*
- **Ziwei Li** and Paul A. O’Gorman, 2019: Response of vertical velocities in extratropical precipitation extremes to climate change, *Journal of Climate*

AWARDS

- Outstanding Student Presentation Award, AGU 2018
- Warren Klein Fellowship, EAPS, MIT 2017
- Norman C. Rasmussen Fellowship, EAPS, MIT 2016
- Weiming Scholarship, School of Physics, Peking University 2015
- Huxiong Chen Scholarship, School of Physics, Peking University 2015
- SUMITOMO Scholarship, Peking University 2014

SERVICES

- Paper reviewer for Geophysical Research Letters
- Organizing committee, Graduate Climate Conference 2019
- Events Committee chair, Ashdown graduate community 2018-2020
- Chair of Committee on Scholarly Interactions, Sidney-Pacific graduate community 2017-2018
- Class advisor in Distinguished High School Student Summer Camp in PKU 2014
- Publicity chair, Student Union in School of Physics 2013-2014