

Hailu Kong

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Education

- 09/2014–12/2020 The University of Chicago
Ph.D. in physical oceanography & geophysical fluid dynamics
Advisor: Malte Jansen
- 09/2010–06/2014 Nanjing University (China)
Bachelor of Science in atmospheric sciences

Awards

- 08/2019 Graduate Council Travel Fund Award, The University of Chicago
- 09/2018 Travel Scholarship for *Understanding and Modeling the Earths Climate: A symposium in honor of Isaac Held*, Princeton University
- 04/2018 Nominated for Physical Sciences Teaching Prize by The University of Chicago
- 06/2014 Excellence Award in Bachelor's Thesis, Nanjing University
- 11/2012 People's Scholarship, Nanjing University
- 11/2011 National Scholarship, Ministry of Education, China

Research Experience

- 09/2017–10/2020 Time-dependent response of the global ocean circulation to changes in Southern Ocean surface wind stress
PhD thesis project, The University of Chicago
- 03/2015–08/2017 The eddy diffusivity in barotropic β -plane turbulence
PhD project, The University of Chicago
- 09/2013–06/2014 What controls the interannual variability of East Asian jet stream?
Bachelor's thesis, Nanjing University

Publications

Peer reviewed works:

- Kong, H., and M. F. Jansen, 2020: The impact of topography and eddy parameterization on the simulated Southern Ocean circulation response to changes in surface wind stress. *Journal of Physical Oceanography*. DOI: <https://doi.org/10.1175/JPO-D-20-0142.1>
- Jansen, M. F., Adcroft, A., Khani, S., and Kong, H., 2019: Toward an energetically consistent, resolution aware parameterization of ocean mesoscale eddies. *Journal of Advances in Modeling Earth Systems*, 11, 2844-2860. DOI: <https://doi.org/10.1029/2019MS001750>
- Kong, H., and M. F. Jansen, 2017: The eddy diffusivity in barotropic β -plane turbulence. *Fluids*, 2, 54; Special issue on *Geophysical Fluid Dynamics*. DOI: <https://doi.org/10.3390/fluids2040054>

Non-peer reviewed work:

- Kong, H., 2020: Time-dependent response of the global ocean circulation to changes in Southern Ocean surface wind stress. PhD dissertation, The University of Chicago, 12/2020

Presentations

- The impact of topography and eddy parameterization on the simulated Southern Ocean response to changes in surface wind stress
 - Oral presentation at the *2021 CESM Ocean Model Working Group Meeting*, Virtual, 02/2021
- Time-dependent response of the global ocean circulation to changes in Southern Ocean surface wind stress
 - PhD dissertation defense, The University of Chicago, 11/2020
- The impact of topography and eddy parameterization on the simulated Southern Ocean response to changes in surface wind stress
 - Poster presentation at the *2020 AGU Ocean Science Meeting*, San Diego, California, 02/2020
- The impact of topography and eddy parameterization on the simulated Southern Ocean response to changes in surface wind stress
 - Oral presentation at the *AMS 22nd Conference on Atmospheric and Oceanic Fluid Dynamics*, Portland, Maine, 06/2019
- The Impact of topography and eddy parameterization on the simulated Southern Ocean response to changes in surface wind stress
 - Poster presentation at the *2018 AGU Fall Meeting*, Washington D.C., 12/2018

- The eddy diffusivity in barotropic β -plane turbulence
 - Poster presentation at *Heldfest - Understanding and Modeling the Earth's Climate: A symposium in honor of Isaac Held*, Princeton University, 10/2018
- Eddy diffusivity in β -plane 2D turbulence: classical scaling arguments and a generalized theory
 - Invited talk at Nanjing University (China), 07/2018
- Eddy diffusivity in β -plane 2D turbulence: classical scaling arguments and a generalized theory
 - Invited talk at Peking University (China), 07/2018
- Eddy diffusivity in barotropic β -plane turbulence: a generalized theory
 - Poster presentation at the *2018 AGU Ocean Science Meeting*, Portland, Oregon, 02/2018
- The suppression of eddy diffusivity: two sides of one coin
 - Oral presentation at the 11th *Graduate Climate Conference*, MIT/WHOI Oceanographic Institute, 11/2017
- Eddy diffusivity in barotropic turbulence on a β -plane with quadratic bottom drag
 - Oral presentation at the *AMS 21st Conference on Atmospheric and Oceanic Fluid Dynamics*, Portland, Oregon, 06/2017
- Barotropic turbulence on a β -plane with quadratic bottom drag
 - Poster presentation at the *2016 AGU Fall Meeting*, San Francisco, California, 12/2016
- The energy cascade in two dimensional turbulence with quadratic drag on a plane and a new parameterization for eddy diffusivity
 - Oral presentation at the *EXPO*, The University of Chicago, 06/2016
- Inverse energy cascade in incompressible two dimensional turbulence
 - Oral presentation at the *EXPO*, The University of Chicago, 06/2015

Teaching Experience

Worked as the teaching assistant for:

- Global Warming: Fall 2014, Spring 2015, Spring 2017, Fall 2017, Spring 2019
- Natural Hazards: Winter 2015/16/17/18 (Head teaching assistant)

Service

- Reviewer for *Journal of Physical Oceanography*
- Leading organizer: *Rosbypalooza - Understanding climates through simple models*, a student-led, hackathon-style summer school held at The University of Chicago (06/2018)
- Co-organizer: *EXPO*, an annual exhibition for students' research in the Department of the Geophysical Sciences at The University of Chicago (06/2017)
- Co-organizer: *Rosbypalooza - bridging climate sciences and statistics*, a student-led, hackathon-style summer school held at The University of Chicago (07/2016)