Kezhou Lu, Ph.D. Candidate

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Education

2023 (expected) **Georgia Institute of Technology**, Atlanta, GA, USA
Ph.D., Climate Dynamics, Physical Oceanography
Thesis Topic: *Fast and Slow Precipitation Response to Anthropogenic Forcing*
Advisor: Dr. Jie He
Minor: Applied Mathematics

2017 - 2018 **University of California, Berkeley**, Berkeley, CA, USA
M.S., Environmental Engineering, concentration in Fluid Dynamics

2013 - 2017 **Tongji University**, Shanghai, China
B.S., Environmental Science
Thesis: *Numerical Modeling of Groundwater and Contaminants Transport in the Vicinity of the Chongming Landfill*
Advisor: Dr. Yoram Rubin (UC Berkeley) and Dr. Ling Chen (Tongji)

Research Interest

- Climate variability, uncertainty and predictability
- Response of tropical climate to anthropogenic changes
- Air-sea interactions
- Troipcal-extratropical connections in precipitation and circulations.

Research Publications

Journal Articles

1. **Lu, K.**, He, J., Fosu, B. O., & Rugenstein, M. A. (2020). Mechanisms of Fast Walker Circulation Responses to CO_2 Forcing. *Geophysical Research Letters (under review)*. doi:10.1002/essoar.10508519.1

Conference Proceedings

1. **Lu, K.**, He, J., Fosu, B. O., & Rugenstein, M. A. (2022). Mechanisms of Fast Walker Circulation Responses to CO_2 Forcing. In *AMS's 25th Conference on Climate Variability and Change (Talk)*, Houston, Texas.
2. **Lu, K.**, He, J., & Kirtman, B. (2020). Impacts of Tropical Precipitation on the Uncertainty of the North Pacific Subtropical High's Response to Anthropogenic Forcing. In *AGU 2020 Fall Meeting (Poster)*, Virtual conference. Retrieved from https://agu2020fallmeeting-agu.ipostersessions.com/default.aspx?s=24-85-95-26-83-A7-8A-0B-95-7A-38-F3-31-81-51-EE
3. **Lu, K.**, He, J., & Rugenstein, M. A. (2019a). Fast and Slow Responses of Equatorial SST Pattern to CO_2 Forcing. In *AGU 2019 Fall Meeting (Poster)*, San Francisco, California. Retrieved from https://docs.google.com/viewer?url=https://agu.confex.com/agu/fm19/mediafile/Handout/Paper500664/poster_AGU_melody_v2.pdf

4 **Lu, K.**, He, J., & Rugenstein, M. A. (2019b). Fast and Slow Responses of Equatorial SST Pattern to CO_2 Forcing. In *The Large Ensemble Workshop (Poster)*, Boulder, Colorado. Retrieved from https://usclivar.org/sites/default/files/meetings/2019/posters/LuPoster.pdf

Teaching and Mentoring Experiences

Fall 2021 — **Teaching Assistant and Guest Lecturer**, Earth System Modeling, Georgia Institute of Technology

Summer 2021 — **Guest Lecturer**, "Into the Storm" Weather and Climate Camp, Georgia Institute of Technology

Fall 2020- Spring 2021 — **Teaching Assistant Lead**, Introduction to Environmental Sciences Lab, Georgia Institute of Technology (TA rating: 4.6/5)
Special duty under the pandemic: Designing the "at-home" labs so that students at high risks or with health concerns are able to get hands-on lab experience without attending the in-person labs

Summer 2019 — **Mentor**, Undergraduate Research Program, Georgia Institute of Technology

Spring 2019 — **Teaching Assistant**, Introduction to Environmental Sciences Lab, Georgia Institute of Technology (TA rating: 4.76/5)
Duties: Instructing labs, grading assignments, and assisting the instructor with lab setup and lab safety

Employment History

2018 - now — **Research Assistant**, Georgia Institute of Technology

Summer 2018 — **Research Assistant**, Lawrence Berkeley National Laboratory

2017 - 2018 — **Program Assistant**, International House at UC Berkeley

Awards and Scholarships

2020-2021 — **Douglas Davis Fellowship in Atmospheric Sciences**, Georgia Institute of Technology

Outstanding Online Teaching Assistant for Earth and Atmospheric Sciences, Georgia Institute of Technology

2017 - 2018 — **Room & Board Scholarship**, International House at UC Berkeley

2017 — **Gu-Guowei Scholarship for Excellent Undergraduate Thesis**, Tongji University

2016 — **Scholarship of Excellence** (first prize), Tongji University

Meritorious Winner of Interdisciplinary Contest in Modeling, Mathematical Association of America

2015 — **BÜCHI Environmental Sample Library Scholarship**, BÜCHI Corporation

Computer Design Competition for College Students in China (second prize)

Scholarship of Excellence (first prize), Tongji University

2014 — **Scholarship of Excellence** (second prize), Tongji University

Skills

Languages	Strong reading, writing and speaking competencies for English, Mandarin Chinese
Mathematics	Statistics, machine learning, numerical solution to PDEs, …
Modeling	Operating and modifying general circulation climate models (e.g. CESM), writing simple models (e.g. two-layer baroclinic models)
Coding	Python, C♯, Fortran, Matlab, SQL, LaTeX, …
Other	Piano