

## Yu Liang

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### Education:

- Ph.D. in Atmosphere, Ocean, and Climate Dynamics 2017-2022  
Department of Earth and Planetary Sciences, Yale University
  - B.Sc. in Atmospheric and Oceanic Sciences with Honors 2013-2017  
School of Physics, Peking University
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### Work Experience:

- Postdoc associate 2023/01-2023/09  
Scripps Institution of Oceanography, UC San Diego
  - Postdoc fellow 2023/10-2025/09, Schmidt AI in Science fellowship  
Scripps Institution of Oceanography, UC San Diego
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### Publications:

#### *In preparation*

[10] **Liang, Y.**, Xie, S., Fedorov, A. V., Yeager, S.G. (2024). Smaller impacts of the March Madden-Julian Oscillation on El Niño evolution than the North Pacific meridional mode.

#### *Published*

[9] **Liang, Y.**, Xie, S., Zhang, H. (2024). An intrinsic low-frequency atmospheric mode of the Indonesian-Australian summer monsoon. *npj Clim. Atmos. Sci.*, 7(1), 240.

[8] **Liang, Y.**, Fedorov, A.V. (2024). Stronger westerly wind bursts in a warming Climate: the effects of the Pacific warming pattern, the Madden-Julian Oscillation and tropical cyclones. *J. Climate*, In press.

[7] Haertel, P., **Liang, Y.** (2024). Potential strengthening of the Madden-Julian Oscillation modulation of tropical cyclogenesis. *Atmosphere*, 15(6), 655.

[6] **Liang, Y.**, Fedorov, A. V. (2022). Excitation of the Madden-Julian Oscillation in response to transient ocean warming in Super-Parameterized CAM. *Geophys. Res. Lett.*, e2022GL100853.

[5] Carpenter, J. R., **Liang, Y.**, Timmermans, M. & Heifetz E. (2022). Physical mechanisms of the linear stabilization of convection by rotation. *Phys. Rev. Fluids*, 7(8), p.083501.

[4] **Liang, Y.**, Carpenter, J. R., & Timmermans, M. (2021). The effect of rotation on double diffusive convection: perspectives from linear stability analysis. *J. Phys. Oceanogr.*, 51(11), 3335-3346.

[3] **Liang, Y.**, Fedorov, A. V., Zeitlin, V., & Haertel, P. (2021). Excitation of the Madden-Julian Oscillation in atmospheric adjustment to equatorial heating. *J. Atmos. Sci.*, 78(12), 3933-3950.

[2] **Liang, Y.**, Fedorov, A. V., & Haertel, P. (2021). Intensification of westerly wind bursts caused by the coupling of the Madden-Julian Oscillation to SST during El Niño onset and development. *Geophys. Res.*

*Lett.*, **48**, e2020GL089395.

[1] **Liang, Y.**, Fedorov, A.V. (2021). Linking the Madden–Julian Oscillation, tropical cyclones and westerly wind bursts as part of El Niño development. *Clim. Dyn.*, **57**, 1039–1060.

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### **Invited talks:**

[2] “Westerly wind bursts in the current and future warmer climate: implications for El Niño.” Xie group meeting in Climate Dynamics, Scripps Institute of Oceanography, UCSD, July 2022.

[1] “Westerly wind bursts in the current and future warmer climate: implications for El Niño.” Atmosphere, Ocean and Climate Dynamics (AOCD) Seminar, Dept. of Earth & Planetary Sciences, Yale University, April 2022.

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### **Conference abstracts:**

- Liang, Y. & Xie, S-P, “Tropical atmospheric internal mode: bridging MJO and ENSO.” 2023 AGU Fall Meeting, San Francisco, December, OS54A-09.
  - Liang, Y. & Fedorov, A. V., “Stronger westerly wind bursts under global warming: the roles of the warming pattern, Madden-Julian Oscillation and tropical cyclones.” 2022 AGU Fall Meeting, Chicago, December, A15B-05.
  - Liang, Y. & Fedorov, A. V., “Excitation of an MJO event in transient response to sea surface warming simulated by the Super-Parameterized CAM.” 2022 AGU Fall Meeting, Chicago, December, A52H-05.
  - Liang, Y., Fedorov, A. V., Zeitlin, V., & Haertel, P., “The role of the Madden–Julian Oscillation in transient equatorial response to tropical convective heating.” 101st AMS Annual Meeting, virtual, January 2021, 875.
  - Liang, Y., Fedorov, A. V., Zeitlin, V., & Haertel, P., “The role of the Madden-Julian Oscillation in transient equatorial adjustment.” 2020 AGU Fall Meeting, virtual, December, A156-0010.
  - Liang, Y., Fedorov, A. V., & Haertel, P., “Linking the Madden-Julian Oscillation, tropical cyclones and westerly wind bursts as part of El Niño development.” 2019 AGU Fall Meeting, San Francisco, December, GC31D-1216.
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### **Selected Honors and Awards:**

- 2023, Schmidt AI in Science postdoctoral fellowship, UC San Diego
  - 2022, Orville Prize in recognition of outstanding research and scholarship in the earth sciences, Department of Earth and Planetary Sciences, Yale University
  - 2021, Elias Loomis Prize for excellence in studies of physics of the earth, Department of Earth and Planetary Sciences, Yale University
  - 2017, Graduate Fellowship, Yale University
  - 2017, Graduate with Honors, Peking University
  - 2016, Weiming Undergraduate Research Fellowship, Peking University
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### **Teaching experience:**

#### ***Yale University***

**Guest lecturer and expert panelist** for physical oceanography section, Oceanography (EPS 625), Fall 2022.

Teaching fellow at Renewable Energy (EPS 275), Spring 2022, 2019; Physical Oceanography (EPS 535), Fall 2020; Physics of Weather and Climate (EPS 522), Spring 2020; Atmosphere, Ocean & Climate Change (EPS 140), Fall 2019.

***Peking University***

Teaching fellow at Fluid Mechanics, Fall 2017.

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**Student mentorship:**

Siyu Qian, 07/2024-present: Zhejiang University undergraduate, to graduate in July 2025. I advise her on the MJO-tropical cyclone research and graduate school applications.

Zach Sutherland, 2023-2024: UCSD undergraduate, graduated in May 2024. I advised him on the impact of multi-year ENSO events on Atlantic tropical cyclones.

Emma Levin, 2021-2022: Yale undergraduate, graduated in May 2023. I advised her on coursework, tropical cyclone research, NSF graduate research fellowship and graduate school applications.

Clara Ma, 2018-2019, Yale undergraduate, graduated in May 2019. I advised her on coursework and career planning.

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**Professional services:**

Reviewer: Climate Dynamics, Journal of Climate, Journal of Geophysical Research, Geophysical Research Letter, Nature communications.

2020-2022, Inclusion, Diversity, Equity, Anti-racism and anti-discrimination (IDEA) Working Group member, Dept. of Earth & Planetary Sciences.

2020-2021, Atmosphere, Ocean and Climate Dynamics (AOCD) Student representative at the department colloquium committee.

2020-2021, Guest host for AOCD seminar, Dept. of Earth & Planetary Sciences.