

Huaiyu Wei

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[My website](#) | [Google Scholar](#) | [ResearchGate](#) | [GitHub](#)

Employment

University of California, Los Angeles (UCLA) Postdoctoral Researcher, Advisor: Prof. Andrew Stewart	Feb 2024 – Present
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Education

The Hong Kong University of Science and Technology (HKUST) Ph.D. in Marine Environmental Science, Advisor: Prof. Yan Wang Thesis: Parameterizing Mesoscale Eddy Fluxes across Continental Slopes	Aug 2019 – Feb 2024
Boston University Visiting student, Advisor: Prof. Xiaozhou Ruan	May 2023 – Aug 2023
Sun Yat-sen University (SYSU) B.S. in Physical Oceanography, Advisor: Prof. Zhan Hu Thesis: Laboratory study on Wave dissipation by vegetation in combined current wave flow	Sept 2015 – July 2019
University of British Columbia Vancouver Summer Program, Best presentation award	July 2017 – Aug 2017

Research Interests

Geophysical fluid dynamics; Eddy dynamics over sloping seafloor; Eddy parameterization; Machine learning; Meridional overturning circulation

Peer-Reviewed Publications

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1. **Wei, H.**, Wang, Y., & Mak, J. (2024). Parameterizing eddy buoyancy fluxes across prograde shelf/slope fronts using a slope-aware GEOMETRIC closure. *Journal of Physical Oceanography*, 54(2), 359-377.
 2. Xie, C.*, **Wei, H.***, & Wang, Y. (2023). Bathymetry-aware mesoscale eddy parameterizations across upwelling slope fronts: A machine learning-augmented approach. *Journal of Physical Oceanography*, 53(12), 2861-2891. (*Contributed equally)
 3. Xie, C., **Wei, H.**, & Wang, Y. (2023). Impact of parameterized isopycnal diffusivity on shelf-ocean exchanges under upwelling-favorable winds: offline tracer simulations augmented by artificial neural network. *Journal of Advances in Modeling Earth Systems*, 15(4), e2022MS003424.
 4. **Wei, H.**, Wang, Y., Stewart, A. L., & Mak, J. (2022). Scalings for eddy buoyancy fluxes across prograde shelf/slope fronts. *Journal of Advances in Modeling Earth Systems*, 14(12), e2022MS003229. (Issue cover)
 5. Hu, Z., Lian, S., Zitman, T., Wang, H., He, Z., **Wei, H.**, et al. (2022). Wave breaking induced by opposing currents in submerged vegetation canopies. *Water Resources Research*, 58(4), e2021WR031121.
 6. **Wei, H.**, & Wang, Y. (2021). Full-depth scalings for isopycnal eddy mixing across continental slopes under upwelling-favorable winds. *Journal of Advances in Modeling Earth Systems*, 13(6), e2021MS002498. (Issue cover)
 7. Hu, Z., Lian, S., **Wei, H.**, Li, Y., Stive, M., & Suzuki, T. (2021). Laboratory data on wave propagation through vegetation with following and opposing currents. *Earth System Science Data*, 13(10), 4987-4999.

Conference Experience

Ocean Science Meeting 2024 , New Orleans, US eLightning presentation: "Parameterizing eddy buoyancy fluxes across prograde shelf/slope fronts using a slope-aware GEOMETRIC closure"	Feb 2024
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Ocean Transport and Eddy Energy Meeting 2023 , WHOI, US	May 2023
Oral presentation: "Parameterization for Eddy Buoyancy Fluxes Across Prograde Shelf/Slope Fronts"	
Ocean Science Meeting 2022 , Online	March 2022
Oral presentation: "Full-Depth Scalings for Isopycnal Eddy Mixing Across Continental Slopes Under Upwelling-Favorable Winds"	
General Assembly 2018 of the European Geosciences Union , Vienna, Austria	April 2018
Poster presentation: "The pattern and control of erodibility of cohesive sediments in a <i>Spartina alterniflora</i> marsh on the coast of Jiangsu, China"	

Invited Talks

1. 'Parameterizing Eddy Mixing across Continental Slopes under Upwelling-Favorable Winds', Marine Center Spring Meeting, UCLA, 9th May 2024.
2. 'Parameterizing Isopycnal Eddy Mixing across Continental Slopes', AOS Ocean Seminar, UCLA, 9th April 2024.

RESEARCH SUPPORT & FELLOWSHIP

"Leveraging Machine Learning and Satellite Measurements to Predict Ocean Meridional Overturning Circulation" Explore ACCESS project.	2024-2026
Postgraduate Studentship, HKUST	2019-2024

Awards

RedBird Academic Excellence Award, HKUST	2023
Best Presentation Award, HKUST Postgraduate Seminar	2023
RedBird Academic Excellence Award, HKUST	2022
Best Presentation Award, HKUST Postgraduate Seminar	2020
National Scholarship, China (Top 1%)	2018
The Giordano Scholarship, SYSU (Top 2%)	2017
First Prize Scholarship, SYSU (Top 5%)	2018
Second Prize Scholarship, SYSU (Top 10%)	2017
Second Prize Scholarship, SYSU (Top 10%)	2016
The Coca-Cola Scholarship for Outstanding Students, SYSU (Top 5%)	2016

Teaching Experience

Teaching assistant in "Survey of Ocean Science"	2022
Teaching assistant in "Descriptive Physical Oceanography"	2021
Teaching assistant in "The Earth as a Blue Planet"	2020
Teaching assistant in "General Chemistry & Hydromechanics"	2018

Additional Information

Journal reviewer: Journal of Advances in Modeling Earth Systems, Ocean Modelling.

Language Skills: Mandarin (Native), English (IELTS score: 7.5).

Computer programming: Fortran, MATLAB, Python.