

## Yilang Xu

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### **EDUCATION**

Doctor of Philosophy in Civil and Environmental and Oceanographic Engineering (2024)  
Massachusetts Institute of Technology (MIT) - Woods Hole Oceanographic Institution (WHOI)  
Joint Program in Oceanography/Applied Ocean Science and Engineering, USA

Master of Science in Civil and Environmental Engineering (2018)  
Stanford University, USA

Bachelor of Engineering in Water Resources and Ocean Engineering (2016)  
Zhejiang University, China

### **PROFESSIONAL EXPERIENCE**

Postdoctoral Fellow, Johns Hopkins University (July 2024 – Present)  
Advisor: Prof. Thomas W. N. Haine

Graduate Research Assistant, Woods Hole Oceanographic Institution (June 2018 – April 2024)  
Advisor: Dr. Weifeng (Gordon) Zhang  
PhD Thesis Title: Processes of Stratification Breakdown and Restratification in Antarctic Coastal Polynyas  
<https://doi.org/10.1575/1912/69634>

Graduate Researcher, Stanford University (June 2017 – March 2018)  
Advisor: Prof. Jenny Suckale

Undergraduate Researcher, Zhejiang University (November 2015 – June 2016)  
Advisor: Prof. Wei Li

### **RESEARCH INTERESTS**

Coastal Physical Oceanography, Numerical Ocean Modeling, Gravity Currents, Biological and Physical Interactions, Polynya Circulation, Sea Ice Dynamics, Polar Marine Environments

## **PUBLICATIONS**

- Xu, Y.**, Zhang, W. G., Maksym, T., Ji, R., Li, Y., & Walker, C. (2024). Influence of Physical Factors on Restratification of the Upper Water Column in Antarctic Coastal Polynyas. *Journal of Geophysical Research: Oceans*, 129(3), e2023JC020762. <https://doi.org/10.1029/2023JC020762>
- Xu, Y.**, Zhang, W. G., Maksym, T., Ji, R., & Li, Y. (2023). Stratification Breakdown in Antarctic Coastal Polynyas. Part I: Influence of Physical Factors on the Destratification Time Scale. *Journal of Physical Oceanography*, 53(9), 2047–2067. <https://doi.org/10.1175/JPO-D-22-0218.1>
- Xu, Y.**, Zhang, W. G., Maksym, T., Ji, R., & Li, Y. (2023). Stratification Breakdown in Antarctic Coastal Polynyas. Part II: Influence of an Ice Tongue and Coastline Geometry. *Journal of Physical Oceanography*, 53(9), 2069–2088. <https://doi.org/10.1175/JPO-D-22-0219.1>

## **PRESENTATIONS**

- “Processes of Stratification Breakdown and Restratification in Antarctic Coastal Polynyas”, May 9, 2024, Ocean College, Zhejiang University. (Invited Talk)
- “Processes of Stratification Breakdown and Restratification in Antarctic Coastal Polynyas”, *NOAA Coastal Ocean Modeling Science Seminar*, April 23, 2024, NOAA Coastal Marine Modeling Branch. (Invited Online Talk)
- “Exploring Mixing and Stratification in Antarctic Coastal Polynyas”, *Parsons Laboratory Seminar Series*, March 8, 2024, Department of Civil and Environmental Engineering, Massachusetts Institute of Technology, Cambridge, MA. (Talk)
- “Influence of Physical Factors on Restratification of the Upper Water Column in Antarctic Coastal Polynyas”, *Ocean Sciences Meeting 2024*, February 18–23, 2024, New Orleans, LA. (Talk)
- “Influence of Physical Factors on Springtime Water-Column Restratification in Antarctic Coastal Polynyas”, *Gordon Research Conference on Coastal Ocean Dynamics*, June 18–23, 2023, Bryant University, Smithfield, RI. (Poster)
- “Stratification Breakdown in Antarctic Coastal Polynyas”, *Applied Ocean Physics and Engineering Department Seminar*, April 26, 2023, Woods Hole Oceanographic Institution, Woods Hole, MA. (Talk)
- “Stratification Breakdown in Antarctic Coastal Polynyas: Influence of an Ice Tongue and Coastline Geometry”, *Gordon Research Conference on Polar Marine Science*, March 5–10, 2023, Ventura, CA. (Poster)
- “Influence of Physical Factors on the Stratification Breakdown and Dense Shelf Water Formation in Antarctic Coastal Polynyas”, *The SCAR Open Science Conference 2022*, August 1–10, 2022. (Online Talk)
- “Timescales of Wintertime Water-Column Destratification in Antarctic Coastal Polynyas”, *Ocean Sciences Meeting 2022*, February 24 – March 4, 2022. (Online Talk)
- “Timescales of Stratification Breakdown in Antarctic Coastal Polynyas”, *Antarctic Sea Ice and Southern Ocean Seminars*, November 18, 2020, Snow and Ice Geophysics Laboratory, University of Texas

at San Antonio, San Antonio, TX. (Online Talk)

“Numerical Modeling of Antarctic Coastal Polynya Circulation”, *Gordon Research Conference on Coastal Ocean Dynamics*, June 16–21, 2019, Southern New Hampshire University, Manchester, NH. (Poster)

## **WORKSHOPS**

The 16th International Workshop on Multi-Scale (Un)-Structured Mesh Numerical Modeling for Coastal, Shelf, and Global Ocean Dynamics (IMUM 2017), August 29 – September 1, 2017, Stanford University, Stanford, CA.

FUNWAVE-TVD Training Workshop, July 25–27, 2017, University of Delaware, Newark, DE.

## **RESEARCH CRUISES**

R/V Thomas G. Thompson, TN368, Shelfbreak Productivity Interdisciplinary Research Operation at the Pioneer Array (SPIROPA) Project Cruise, July 5–18, 2019.

SSV Corwith Cramer, MIT-WHOI Joint Program Orientation Cruise, June 29 – July 6, 2018.

## **AWARDS AND HONORS**

Excellent Graduate of Zhejiang University and of Zhejiang Province, 2016

Outstanding Undergraduate Thesis, Zhejiang University, 2016

National Scholarship (Top 5%), Ministry of Education of the People’s Republic of China, 2015

The First Prize of Excellent Undergraduate Scholarship, Zhejiang University, 2014 and 2015

## **SERVICES AND OUTREACH**

MIT-WHOI Joint Program Applicant Support and Knowledgebase (JP ASK), Mentor, 2022, 2023

MIT-WHOI Joint Program, COFDL Student Meeting, Co-Organizer, 2022–2023

Gordon Research Seminar in Coastal Ocean Dynamics, Session Discussion Co-Leader, 2023

Gordon Research Seminar in Polar Marine Science, Session Discussion Co-Leader, 2023