

Yilang Xu

Applied Ocean Physics and Engineering Department
Woods Hole Oceanographic Institution
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EDUCATION

MIT-WHOI Joint Program (June 2018 – Present)

Ph.D. Candidate in Civil and Environmental Engineering at Massachusetts Institute of Technology and
Applied Ocean Science and Engineering at Woods Hole Oceanographic Institution

Stanford University (September 2016 – April 2018)

Master of Science in Civil and Environmental Engineering

Zhejiang University, China (September 2012 – June 2016)

Bachelor of Engineering in Water Resources and Ocean Engineering

PROFESSIONAL EXPERIENCE

Graduate Research Assistant, Woods Hole Oceanographic Institution (June 2018 – Present)

Advisor: Dr. Weifeng (Gordon) Zhang

Thesis Project: Exploring Mixing and Stratification in Antarctic Coastal Polynyas

Graduate Researcher, Stanford University (June 2017 – March 2018)

Advisor: Prof. Jenny Suckale

Research Project: CFD Modeling of Tsunami-Induced Inundations and Risk Mitigation with Coastal Construction

Undergraduate Researcher, Zhejiang University (November 2015 – June 2016)

Advisor: Prof. Wei Li

Thesis Project: Analytical Study of Tidal Wave Movement Based on Water-Sediment Interaction

RESEARCH INTERESTS

Coastal Oceanography, Polynya Circulation, Sea Ice Dynamics, Gravity Currents, Biological and Physical Interactions, Numerical Ocean Modeling, Antarctic Coastal Environment

PUBLICATIONS

Xu, Y., Zhang, W., Maksym, T., Ji, R., & Li, Y. (2023). Stratification Breakdown in Antarctic Coastal Polynyas, Part I: Influence of Physical Factors on the Destratification Timescale, *Journal of Physical Oceanography*, accepted. <https://doi.org/10.1175/JPO-D-22-0218.1>

Xu, Y., Zhang, W., 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*, accepted. <https://doi.org/10.1175/JPO-D-22-0219.1>

Li, W., Su, Z., **Xu, Y.**, Hu, P., He, Z., & Wu, B. (2018). Analytical Study of Tidal Wave Movement Based on Sediment-Induced Drag Reduction and Its Application to the Qiantang Estuary. *Journal of Basic Science and Engineering*, 26(5), 954–964.

PRESENTATIONS

“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