Yao Fu

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Education

Ph.D.	2013.10 – 2018.01	Physical Oceanography GEOMAR Helmholtz Centre for Ocean Research Kiel and Kiel University, Germany
M.S.	2010.10 – 2013.08	Climate Physics Kiel University, Germany
B.S.	2006.09 – 2010.07	Ocean Technology Dalian Ocean University, China

Academic Appointments

2025.01 – Present	Assistant Professor University of South Florida, USA
2021.05 – 2024.12	Research Scientist II Georgia Institute of Technology, USA
2018.03 – 2021.04	Assistant Research Scientist South China Sea Institute of Oceanology, Chinese academy of Sciences, China

Teaching

Spring 2023	Instructor	EAS-6490, “Advanced Environmental Data Analysis”, School of Earth and Atmospheric Sciences, Georgia Institute of Technology
Fall 2025	Co-instructor	OCE-6934, “Global Overturning Circulation”, College of Marine Science, University of South Florida

Advising and Mentoring

Current Students

Sarah Campbell, master student, University of South Florida
Bryant Polard II, undergraduate student, University of South Florida

Former Students

Luke Dorrian, undergraduate student, Georgia Institute of Technology
Bikram Singh, REU student, Rice University

Funding

1. Collaborative Research: Overturning in the Subpolar North Atlantic Program (OSNAP), 02/2020-01/2027, NSF, $1,426,599, co-PI
2. Collaborative Research: Role of the Overturning Circulation in Carbon Accumulation (ROCCA), 02/2024 – 01/2027, NSF, $42,605, PI

Research Cruises

1. 2016, Cruise M124, R/V Meteor, Cape Town to Rio de Janeiro, underway-CTD and CTD operation and data processing
2. 2014, Cruise PS88, R/V Polarstern, Las Palmas to Cape Town, lowered ADCP operation and data processing
3. 2012, Cruise MSM22, R/V Maria S. Merian, Mindelo to Mindelo, Cape Verde, moored ADCP data processing

Data and Code products

1. **Fu Y.** et al. (2025). Meridional Overturning Circulation Observed by the OSNAP Array from August 2014 to July 2022 [Dataset]. Georgia Tech Library, DOI: 10.35090/gatech/78023
2. **Fu Y.** et al. (2023). Meridional Overturning Circulation Observed by the OSNAP Array from August 2014 to July 2020 [Dataset]. Georgia Tech Library, DOI: 10.35090/gatech/70342
3. Fortin, A.-S., Majumder, S., Li, F., & **Fu, Y.** (2022). OSNAP Model Truth Code [Code]. Georgia Institute of Technology. DOI: 10.35090/gatech/67081

Publications

1. **Fu, Y.**, et al., (2025). Characterizing the interannual variability of North Atlantic subpolar Overturning, *Geophysical Research Letters*, accepted
2. **Fu, Y.**, Lozier, M. S., Majumder, S., & Petit, T. (2024). Water mass transformation and its relationship with the overturning circulation in the eastern subpolar North Atlantic. *Journal of Geophysical Research: Oceans*, 129, e2024JC021222
3. Koman, G., Bower, A. S., Holliday, N. P., Furey, H. H., **Fu, Y.**, Bilo, T. C. (2024). Observed decrease in Deep Western Boundary Current transport in subpolar North Atlantic. *Nature Geoscience*, 10.1038/s41561-024-01555-6
4. Li, F., **Fu, Y.**, Lozier, M. S., Le Bras, I. A., de Jong, M. F., Wang, Y., and Sanchez-Franks, A. (2024). Deep circulation variability through the eastern subpolar North Atlantic. *Journal of Climate*, https://doi.org/10.1175/JCLI-D-23-0487.1
5. Sanchez-Franks, A., Holliday, N. P., Evans, D. G., Fried, N., Tooth, O., Chafik, L., **Fu, Y.**, Li, F., de Jong, M. F., Johnson, H. L. (2024). The Irminger Gyre as a key driver of the Subpolar North Atlantic overturning. *Geophysical Research Letters*, 51, e2024GL108457
6. Volkov et al. (2024), Meridional overturning circulation and heat transport in the Atlantic Ocean, [in "State of the Climate in 2023"], Bulletin of the American Meteorological Society, 105(8), S191-S193
7. **Fu, Y.**, Lozier, M. S., coauthors (2023), Seasonality of the Meridional Overturning Circulation in the Subpolar North Atlantic, *Communications Earth & Environment*, 4, 181
8. Yao, Y., Wang, C., **Fu, Y.** (2022), Global Marine Heatwaves and Cold Spells in Present Climate to Future Projections, *Earth's Future*, 10, e2022EF002787
9. **Fu, Y.**, Brandt, P., Tuchen, F. P., Lübbecke, J. F., Wang, C. (2022), Representation of the mean Atlantic Subtropical Cells in CMIP6 models, *Journal of Geophysical Research: Oceans,* 127, e2021JC018191
10. Volkov et al. (2022), Meridional overturning circulation and heat transport in the Atlantic Ocean, [in "State of the Climate in 2021"], Bulletin of the American Meteorological Society, 103(8), S157-S179
11. **Fu, Y.**, Li, F., Karstensen, J., Wang, C. (2020), A stable Atlantic Meridional Overturning Circulation in a changing North Atlantic since the 1990s, *Science Advances*, 6, eabc7836
12. Feng, E., Sawall, Y., Wall, M., Lebrato, M., **Fu, Y.** (2020), Mitigating coral bleaching with artificial upwelling: a modeling investigation, *Frontiers in Marine Science*, 7:556192
13. Tuchen, F. P., Lübbecke, J. F., Brandt, P., **Fu, Y.** (2020), Observed transport variability of the Atlantic Subtropical Cells and their connection to tropical sea surface temperature variability, *Journal of Geophysical Research: Oceans*, 125, 1-20
14. **Fu, Y.**, Wang, C., Brandt, P., Greatbatch, R. J. (2019). Interannual Variability of Antarctic Intermediate Water in the Tropical North Atlantic. *Journal of Geophysical Research: Oceans*, 124, 4044-4057
15. **Fu, Y.**, Karstensen, J., Brandt, P. (2018), Atlantic meridional overturning circulation at 14.5°N in 1989 and 2013 and 24.5°N in 1992 and 2015: volume, heat, and freshwater transports, *Ocean Science*, 14(4), 589-616
16. **Fu, Y.**, Karstensen, J., Brandt, P. (2017), On the meridional ageostrophic transport in the tropical Atlantic, *Ocean Science*, 13(4), 531-549, doi:10.5194/os-13-531-2017
17. Greatbatch, R. J., Brandt, P., Claus, M., Didwischus, S. H. and **Fu, Y.** (2012), On the width of the equatorial deep jets, *Journal of Physical Oceanography*, 42. pp. 1729-1740

Conference and Seminar

Workshop

Co-organizer for “RAPID-OSNAP data workshop” at Woods Hole Oceanographic Institution, Woods Hole, MA, USA, 2025

Session Chair/Panel Discussion

Co-convenor for session “Variability and Controls of Ocean Climate Revealed by Long-Term Multidisciplinary Eulerian Observatories” in AGU Fall Meeting 2022, Chicago, IL, USA

Panelist at “OOI and OSNAP in the North Atlantic” webinar at Ocean Observatories Initiative virtual booth in AGU Fall Meeting 2021

Panelist for “SMART Cables Science and Early Warning” at 10th JTF SMART Cables Workshop 2025, University of Hawai‘i at Mānoa, Honolulu

Invited Talks/Seminars

1. **Fu, Y.** (2025), The Atlantic Meridional Overturning Circulation and its stability, Center for Climate Research, University of Wisconsin Madison, USA
2. **Fu, Y.**, Lozier, M. S., and the OSNAP Team (2024), Overturning in the Subpolar North Atlantic, in Earth's Pulse: SMART Cables in the Northern Hemisphere
3. **Fu, Y.** (2023), The Atlantic Meridional Overturning Circulation and its stability, College of Marine Science, University of South Florida, USA
4. **Fu, Y.,** Li, F., Johns, W. E., Lozier, M. S. (2023), Workshop on OSNAP calculation methods, SNAP Seminar, University of Oxford, UK
5. **Fu, Y.**, Brandt, P., Tuchen, F. P., Lübbecke, J. F., Wang, C. (2022), Representation of the mean Atlantic Subtropical Cells in CMIP6 models, EAS Seminar, Georgia Institute of Technology, USA
6. **Fu, Y.**, Brandt, P., Tuchen, F. P., Lübbecke, J. F., Wang, C. (2022), Representation of the mean Atlantic Subtropical Cells in CMIP6 models, OCCD Seminar, GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany
7. **Fu, Y.**, Li, F., Karstensen, J., Wang, C. (2021), A stable Atlantic Meridional Overturning Circulation in a changing North Atlantic Ocean since the 1990s, CGD Seminar, National Center for Atmospheric Research, USA

Selected Conference/Workshop Presentations

1. **Fu, Y.**, Lozier, M. S., coauthors (2024), Characterizing the interannual variability of the North Atlantic Subpolar Overturning [Talk] in AGU annual meeting, Washington DC, USA
2. **Fu, Y.**, Lozier, M. S., Majumder, S. and Petit, T. (2024), Water Mass transformation and its relationship to the subpolar overturning [Talk] in Ocean Sciences Meeting, New Orleans, Louisiana, USA
3. **Fu, Y.**, Lozier, M. S., coauthors (2023), Interannual variability of the subpolar overturning and OSNAP array reduction experiment [Talk] in Workshop on Meeting AMOC Observation Needs in a Changing Climate, Hamburg, Germany
4. **Fu, Y.**, Lozier, M. S., coauthors (2023), Interannual variability of the subpolar overturning [Talk] in EGU General Assembly 2023, Vienna, Austria
5. **Fu, Y.**, Lozier, M. S., coauthors (2022), Seasonal cycle of the Atlantic meridional overturning circulation in the subpolar North Atlantic [Talk] in EGU General Assembly 2022, Vienna, Austria
6. **Fu, Y.**, Lozier, M. S., coauthors (2022), Seasonal cycle of the Atlantic meridional overturning circulation in the subpolar North Atlantic [Talk] in Ocean Sciences Meeting 2022
7. **Fu, Y.**, Li, F., Karstensen, J., Wang, C. (2021), A stable Atlantic Meridional Overturning Circulation in a changing North Atlantic Ocean since the 1990s [Talk] in AGU Fall Meeting 2021, New Orleans, Louisiana, USA
8. **Fu, Y.**, Li, F., Karstensen, J., Wang, C. (2020), A stable Atlantic Meridional Overturning Circulation in a changing North Atlantic Ocean [Talk] in European Geoscience Union General Assembly 2020
9. **Fu, Y.**, Wang, C., Brandt, P., Greatbatch, R. (2019), Interannual variability of Antarctic intermediate Water in the Tropical North Atlantic [Talk] in European Geoscience Union General Assembly 2019, Vienna, Austria
10. **Fu, Y.**, Karstensen, J., Brandt, P., (2015), Estimation of the Meridional Ekman transport at 14.5° N in the Atlantic [Poster] in: European Geoscience Union General Assembly 2015, Vienna, Austria. This poster won the **Outstanding Student Poster Award**. http://www.egu.eu/awards-medals/ospp-award/2015/