

Xiang YANG

Postdoctoral Researcher

[Google Scholar](#) | [ResearchGate](#)

School of Earth and Atmospheric Sciences

Georgia Institute of Technology, USA

ORCID: 0000-0002-0616-0967

Email: xiang.yang@gatech.edu

Phone: +1 (808) 850 1044

Academic appointment(s)

Nov. 2025-present **Postdoctoral Researcher at EAS, Georgia Institute of Technology,**
Atlanta, GA, USA
Project title: *Understanding Antarctic Winter Water Contribution to Carbon Exchange across the Southern Ocean and Its Interaction with Sea Ice Variability*
PI: Lilian Dove

Educations

Jan. 2022-July 2025 **Doctor of Philosophy (Quantitative Marine Science) and Graduate Diploma of Marine and Antarctic Science**
Institute for Marine and Antarctic Studies, University of Tasmania
Hobart, Tasmania, Australia
PhD thesis: Drivers of changes in air-sea CO₂ exchange and carbon cycling in the Subantarctic and coastal Antarctica.
Supervisors: Pete Strutton, Elizabeth Shadwick, Cathryn Wynn-Edwards

Jun. 2019- July 2021 **Bachelor of Marine and Antarctic Science with Honours (Specialisation)**
Institute for Marine and Antarctic Studies, University of Tasmania
Hobart, Tasmania, Australia
Honours thesis: Physical drivers of biogeochemical variability in the Polar Front meander
Supervisors: Pete Strutton, Helen Phillips, Ajitha Cyriac

Jun. 2017- July 2019 **Bachelor of Marine Science (Joint Education)**
College of Oceanic and Atmospheric Sciences, Ocean University of China
Qingdao, Shandong, China

Selected publications

Published:

- ◆ **Yang, X.**, Wynn-Edwards, C. A., Strutton, P. G., & Shadwick, E. H. (2024). Carbon Export in the Subantarctic Zone Revealed by Multi-Year Observations From Biogeochemical-Argo Floats and Sediment Traps. *Global Biogeochemical Cycles*, 38(7), e2024GB008135. <https://doi.org/10.1029/2024GB008135>
- ◆ **Yang, X.**, Wynn-Edwards, C. A., Strutton, P. G., & Shadwick, E. H. (2024). Drivers of Air-Sea CO₂ Flux in the Subantarctic Zone Revealed by Time Series Observations. *Global Biogeochemical Cycles*, 38(1), e2023GB007766. <https://doi.org/10.1029/2023GB007766>
- ◆ **Yang, X.**, Strutton, P. G., Cyriac, A., Phillips, H. E., Pittman, N. A., & Vives, C. R. (2022). Physical drivers of biogeochemical variability in the Polar Front meander. *Journal of Geophysical Research: Oceans*, 127, e2021JC017863. <https://doi.org/10.1029/2021JC017863>
- ◆ Pittman, N. A., Vives, C. R., **Yang, X.** & Strutton, P. G. (2021). IN2018_V05 biogeochemistry

[Data set]. Institute for Marine and Antarctic Studies (IMAS), University of Tasmania (UTAS).
<https://doi.org/10.25959/Y5C2-Y445>

- ◆ Shadwick, E. H., Wynn-Edwards, C. A., Eriksen, R. S., Jansen, P., **Yang, X.**, Woodward, G., & Davies, D. (2025). The Southern Ocean Time Series: a climatological view of hydrography, biogeochemistry, phytoplankton community composition, and carbon export in the Subantarctic Zone. *Ocean Science*, 21(4), 1549–1573. <https://doi.org/10.5194/os-21-1549-2025>

Under Review:

- ◆ **Yang, X.**, Wynn-Edwards, C., Strutton, P., & Shadwick, E. (2025, June 4). Linking phytoplankton phenology and carbon cycling to sea ice retreat timing in the Weddell Sea. In Review. <https://doi.org/10.21203/rs.3.rs-6581380/v1>
- ◆ Wynn-Edwards, C. A., **Yang, X.**, Nodder, S. D., & Shadwick, E. H. (2025, December 12). Organic carbon sequestration is insensitive to variability in surface productivity in the Subantarctic Zone: implications for enhancing the biological carbon pump for climate mitigation. Preprints. <https://doi.org/10.22541/essoar.176555956.60905945/v1>

Selected Awards and Honours

Mar. 2026	Executive Dean's Honour Roll in the College of Sciences and Engineering in Graduate Diploma of Marine and Antarctic Science
Dec. 2025	IMAS outstanding PhD thesis prize
May. 2022	AMOS Regional Award for Academic Achievement
Aug. 2021	Executive Dean's Honour Roll in the College of Sciences and Engineering in Bachelor of Marine and Antarctic Science with Honours First class in Marine and Antarctic Science; Highest achievement in IMAS Honours program
Sep. 2020	ARC Centre of Excellence for Climate Extremes Honours scholarship
Nov. 2019	Tasmanian International Scholarship
Jun. 2019	Excellent Study Performance Award by AEMG

Selected conferences and invited talks

Feb. 2026	Poster 'Linking phytoplankton phenology and carbon cycling to sea ice retreat timing in the Weddell Sea' Ocean Science Meeting (OSM) 2026
Jan. 2025	Oral 'Responses of Carbon Dynamics and Bloom Phenology to Ice Retreat Timing in the Weddell-Sea SIZ', Xiamen Symposium on Marine Environment Science (XMAS) annual meeting 2025
Dec. 2024	Poster 'Carbon export in the subantarctic zone revealed by multi-year observations from biogeochemical-Argo floats and sediment traps' Fall American Geophysical Union (AGU) annual meeting 2024
Nov. 2024	Invited talk "Carbon export in the subantarctic zone revealed by multi-year observations from biogeochemical-Argo floats and sediment traps" BGC-Argo science meeting, online
Sep. 2024	Oral "Carbon export in the subantarctic zone revealed by multi-year observations from biogeochemical-Argo floats and sediment traps"

Aug. 2024	Australian Marine Sciences Association Annual Meeting, Hobart, 2024 Invited talk “Carbon export in the subantarctic zone revealed by multi-year observations from biogeochemical-Argo floats and sediment traps” JETZON – Joint Exploration of the Twilight Zone Ocean Network, online
May 2024	Invited talk “Drivers of Air-Sea CO₂ Flux in the Subantarctic Zone Revealed by Time Series Observations + Carbon export in the subantarctic zone revealed by multi-year observations from biogeochemical-Argo floats and sediment traps” The Southern Ocean Fluxes (SOFLUX) webinars, online
Aug. 2023	Poster “Carbon fluxes in the subantarctic zone revealed by multi-year biogeochemical-Argo floats and sediment trap observations” Southern Ocean Observation System (SOOS) 2023 Symposium
Dec. 2022	Poster “Drivers of Air-Sea CO₂ Flux in the Subantarctic Zone Revealed by Time Series Observations” The Australian Meteorological & Oceanographic Society (AMOS) Annual General Meeting, Adelaide, 2022
Oct. 2021	Poster “Physical Drivers of Biogeochemical Variability in the Polar Front Meander” The ARC Centre of Excellence for Climate Extremes (CLEX) Ocean Extreme workshop, online

Leadership

Nov. 2024	Session Chair Side event ‘Constraining BGC-Argo float derived estimates of Southern Ocean productivity’ Australian Antarctic Research Conference (AARC) 2024
Aug. 2023	Session Chair “Carbon fluxes in the subantarctic zone revealed by multi-year biogeochemical-Argo floats and sediment trap observations” Southern Ocean Observation System (SOOS) 2023 Symposium

Field work

Nov. 2023	IN2023_V07, “FOCUS” voyage to the Polar Front Meander Organized by CSIRO and Marine National Facility Key Responsibilities: Worked in the CTD room, wet lab, carbon lab; Responsible for dissolved inorganic carbon measurements, operating SOMMA and new DIC analyser
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Teaching experience

Mar. 2024 – June 2025	Teaching assistant Unit KSA205 Introduction to Oceanography (~90 students) Institute for Marine and Antarctic Studies, University of Tasmania Hobart, Tasmania, Australia Unit coordinator: Prof. Zanna Chase and Prof. Pete Strutton Key Responsibilities: provide assistance with coding, data analysis,
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demonstration in wet lab and field trip (including deployment of CTD and sampling of Niskin bottles), grading assignments

Skills

Programming	Matlab, Python and R
Languages	Chinese (first language), English (fluent reading, writing, and speaking)
Peer review	5 publications (including GRL and GBC)