YAJUAN LIN

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RESEARCH AREAS

Biological Oceanography, Phytoplankton, Microbiome, Bioinformatics, Environmental Solutions

EDUCATION

2013	Ph.D. in Marine Science and Conservation, Duke University
2006	Dual B.S. in Biology and Geology, Peking University
Summer 2014	Strategies and Techniques for Analyzing Microbial Population Structures, Marine Biological Laboratory, Woods Hole, MA
Summer 2009	Molecular Evolution, Marine Biological Laboratory, Woods Hole, MA

APPOINTMENTS

2022 – present	Assistant Professor, Department of Life Sciences, Texas A&M University – Corpus Christi
2020 – 2022	Assistant Professor, Biology/Environmental Research Center, Duke Kunshan University (DKU)
2018 – 2020	Research Scientist, Nicholas School of the Environment, Duke University
2016 – 2018	Postdoctoral Fellow, European Institute for Marine Studies (IUEM), Université de Bretagne Occidentale, France
2013 – 2015	Postdoctoral Fellow, Nicholas School of the Environment, Duke University

PUBLICATIONS (CITATIONS: **1063**; H-INDEX: **19**)

Faure, E., *et al*. Water mass specific genes dominate the Southern Ocean microbiome. Full text available DOI 10.21203/rs.3.rs-5608865/v1. Under review at *Nature Microbiology*.

Wen, X., Fang, C., Huang, L., Miao, J., and **Lin, Y.** A citizen science approach for mapping total microbial communities and waterborne pathogens in household drinking water in China. (2025) *Frontiers in Microbiology*, 16,1609070.

Ombres, E.H., *et al*. Tools in harmony: Integrating observations and models for improved understanding of a changing ocean. (2025) *Oceanography* 38(3).

Gu, S., Berthelot, H., **Lin, Y.**, Tang, W., Robidart, J., Eren., A. M., Ducklow, H., and Cassar, N. Sedimentary diazotroph contribution to measurable N_2 fixation in Antarctic waters. (2024) *Communications Earth & Environment*, 6, 264.

Miao, J., Chen, T., Misir, M., and **Lin, Y.** Deep learning for predicting 16S rRNA copy number. (2024) *Scientific Reports*, 14 (1), 14282.

Li, Z., **Lin, Y.**, and Cassar, N. On the influence of phytoplankton size fractions on the carbon export ratio in the surface ocean. (2024) *Ecological Modeling*, 495, 110798.

Lombard, F., *et al*. Open science resources from the Tara Pacific expedition across coral reef and surface ocean ecosystems. (2023) *Scientific Data*, 10 (1), 324

Lin, Y., Moreno, C., Marchetti., A, Ducklow, H., Schofield, O., Delage., E., Meredith, M., Li, Z, Eveillard, D., Shaffron, S., and Cassar, N. (2021) Decline in plankton diversity and carbon flux

with reduced sea ice extent along the Western Antarctic Peninsula. *Nature Communications,* 12 (1), 1-9.

Landwehr, S., *et al*. (2021). Biogeochemistry and physics of the Southern Ocean-atmosphere system explored with data science. *Earth System Dynamics*, 12 (4), 1295-1369.

Brown, M., Bowman, J., **Lin, Y**., Feehan, C., Cassar, N., Moreno, C., Marchetti, A., and Schofield, O. (2021) Low diversity of a key phytoplankton group along the West Antarctic Peninsula. *Limnology and Oceanography,* 66, 2470-2480.

Gorsky, G., *et al*. (2019). Expanding *Tara* Oceans protocols for underway, ecosystematic sampling of the ocean-atmosphere interface during *Tara* Pacific expeditions. *Frontiers in Marine Science. DOI: 10.3389/fmars.2019.00750*

Lin, Y., Gifford, S., Ducklow, H., Schofield, O., and Cassar, N. (2019). Towards quantitative microbiome community profiling using internal standards. *Applied and Environmental Microbiology*, 85.5: e02634-18.

Wang, S., **Lin, Y.**, Gifford, S., Eveleth, R., & Cassar, N. (2018). Linking patterns of net community production and marine microbial community structure in the western North Atlantic. *ISME J.*, 1.

Lin, Y., Cassar, N., Marchetti, C., Moreno, A., Ducklow, H., and Li, Z. (2017). Specific eukaryotic plankton are good predictors of net community production in the Western Antarctic Peninsula. *Scientific Reports,* 7, 14845.

Moreno, C. M., **Lin, Y.**, Davies, S., Monbureau, E., Cassar, N., & Marchetti, A. (2017). Examination of gene repertoires and physiological responses to iron and light limitation in Southern Ocean diatoms. *Polar Biology*, 1-18.

Eveleth, R., Cassar, N., Sherrell, R.M., Ducklow, H., Meredith, M.P., Venables, H.J., **Lin, Y.**, Li, Z. (2016). Ice melt influence on summertime net community production along the Western Antarctic Peninsula. *Deep Sea Research Part II: Topical Studies in Oceanography*, 139, 77-88.

Larkin, A., Blinebry, S., Howes, C., **Lin, Y.**, Loftus, S., Schmaus, C., Zinser, E., and Johnson, Z. (2016). Niche partitioning and biogeography of high light adapted *Prochlorococcus* across taxonomic ranks in the North Pacific. *ISME J.*, 10(7), 1555-1567.

Chandler, J., **Lin, Y.**, Gainer, P., Post, A., Johnson, Z., and Erik, Z. (2016). Variable but persistent coexistence of *Prochlorococcus* ecotypes along temperature gradients in the ocean's surface mixed layer. *Environmental Microbiology Reports, 8(2),* 272-284.

Ribalet, F., Swalwell, J., Clayton, S., Jiménez, V., Sudek, S., **Lin, Y.**, Johnson, Z., Worden, A., and Armbrust, E. V. (2015). Light-driven synchrony of *Prochlorococcus* growth and mortality in the subtropical Pacific gyre. *PNAS*, 112(26), 8008-8012.

Jiao, N., Luo, T., Zhang, R., Yan, W., **Lin, Y.**, Johnson, Z. I., Tian, J., Yuan, D., Yang, Q., Sun, J., Hu, D., and Wang, P. (2014). Presence of *Prochlorococcus* in the aphotic waters of the western Pacific Ocean. *Biogeosciences,* 11, 2391-2400.

Lin Y., Gazsi K., Lance V. P., Larkin A., Chandler, J., Zinser E. R., and Johnson Z. I. (2013). *In situ* activity of a dominant *Prochlorococcus* ecotype (eHL-II) from rRNA content and cell size. *Environmental Microbiology.* 15(10), 2736-2747.

Hunt, D. E., **Lin, Y. (co-first author),** Church, M. J., Karl, D. M., Tringe, S. G., Izzo, L. K., & Johnson, Z. I. (2013). Relationship between Abundance and Specific Activity of Bacterioplankton in Open Ocean Surface Waters. *Applied and Environmental Microbiology*, *79*(1), 177-184.

Bittar, T. B., **Lin, Y.**, Sassano, L. R., Wheeler, B. J., Brown, S. L., Cochlan, W. P., and Johnson, Z. I. (2013). Carbon Allocation under Light and Nitrogen Resource Gradients in Two Model Marine Phytoplankton. *Journal of Phycology. 49*(3), 523-535.

Johnson, Z. I., and **Lin, Y.** (2009). *Prochlorococcus*: Approved for export. *PNAS, 106(26)*, 10400-10401.

Wang, D., and **Lin, Y.** (2007). A new species of Metacladophyton from the Late Devonian of China. *International Journal of Plant Sciences, 168(7)*, 1067-1084.

SELECTED PRESENTATIONS

Invited talk at the University of Texas at Austin Marine Science Institute, Port Aransas. Dec 2023. Mapping the 'invisible forest' and its role in carbon cycling in the Southern Ocean.

Invited talk at NC State University, Raleigh. Apr 2023. Mapping the 'invisible forest' and its role in carbon cycling in the Southern Ocean.

Invited talk at Harvard Medical School Channing Microbiome Seminar (virtual), Boston, MA. Dec 2022. Deep learning for predicting 16S rRNA gene copy number.

Ocean Sciences Meeting, Honolulu, HI. March 2022. Decline in plankton diversity and carbon flux with reduced sea ice extent along the Western Antarctic Peninsula.

TARA Pacific Meeting, in Genoscope (Evry), France. May 2019. Net community production variability in the open ocean and around the Pacific Islands.

Invited talk at Emerging Bioinformatics Approaches in Microbial Ecogenomics (EBAME) workshop, Plouzane, France. Oct 2016. Linking community structure to ecosystem functioning.

Invited talk at University of North Carolina at Chapel Hill, Chapel Hill. Sep 2015. Mapping the 'invisible forest' and its role in carbon cycling in the Southern Ocean.

New Generation of Polar Researchers (NPGR) Leadership Symposium, Catalina Island. May 2015. Mapping the 'invisible forest' and its role in carbon cycling in the Southern Ocean.

Ocean Sciences Meeting, Salt Lake City. Feb 2012. Estimating the growth rate and biogeochemistry of genetically diverse *Prochlorococcus* using rRNA/rDNA ratios.

RESEARCH EXPEDITIONS

NOAA SHELF Cruise in Gulf of Mexico, R/V Weatherbird, Jun 2025 (student on board)

NOAA XR05 Cruise in Gulf of Mexico, R/V Pelican, Feb 2023

Antarctic Circumnavigation Expedition, R/V Akademik Treshnikov, Nov 2016 – Mar 2017

TARA Pacific Expeditions, the schooner TARA, May 2016

Palmer LTER at Western Antarctica Peninsula, R/V Laurence M. Gould, Jan-Feb 2014

Sargasso Sea N_2 fixation, R/V Atlantic Explorer, Aug 2017 and Aug 2015

POWOW2 Cruise in North Pacific Ocean, R/V Kilo Moana, Jan-Feb 2013

CH0510 Sargasso Sea, R/V Cape Hatteras, May 2010

Hawaii Ocean Time-series (HOT) 215 cruise, R/V Kilo Moana, Sep 2009

DCMII Cruise in Eastern Pacific Ocean, R/V New Horizon, Jun-Jul 2008

COMMUNITY SERVICE (SELECTED EXAMPLES)

Science Thursday Seminar at the Owen Hopkins Library in Calallen: *From Winter Chill to Summer Bloom Microbial Life in Our Coastal Waters (2025), Being an Oceanographer in Antarctica (2024)*

Mentoring intermediate schoolgirls in Miss Katie Doyle's class (Flour Bluff ISD) to participate in weekly coastal-time series sampling (2024 - 2025)

K-12 lectures on *Phytoplankton and Ocean Carbon Cycles* for Miss Katie Doyle's Ocean's Class program (Flour Bluff ISD) (2023-2025)

TARA Pacific Expedition "meet a scientist on board" to allow students and teachers to explore the scientific instruments used aboard the schooner TARA, in Lorient, France (2016) and Boston (2018)

Durham Museum of Life and Science Ocean's Lab events for kids (2015)

Duke Marine Lab Open House, phytoplankton microscope booth (2011-2013)