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Qi Ye M.E.

Education

Northeastern University — Boston, USA
Ph.D. in Marine and Environmental Sciences — 2024 - Present
- Advisor: Prof. Cristina Schultz
- Dissertation: Linking Terrestrial Inputs, Costal Benthic Fluxes, and Carbon Dynamics: A Multi-Scale Study from the Plum Island Estuary to the Gulf of Maine

China University of Geosciences (Beijing) — Beijing, China
M.E. in Geological Engineering — 2018 - 2021

Zhejiang University — Hangzhou, China
B.E. in Environmental Engineering — 2013 - 2017

Positions

Chinese Academy of Sciences — Nanjing, China
Research Associate, Nanjing Institute of Geography and Limnology — 2021 - 2024

China University of Geosciences (Beijing) — Beijing, China
Lab Manager, MC-ICP-MS Laboratory — 2019 - 2020

Publications

1. Wu, Y., Chen, S., **Ye, Q.**, Hua Li. Jiang, L., Chang, Y., Huang, W., Liu, C., Ma, S., Jiang R., Fei, D., Xu, H., Shi, X., and Chen, K., 2024. Coverage and diversity of submerged macrophytes drives sediment bacterial community in Dongshan Bay, Lake Taihu. (2024.10.31: Submitted to *Freshwater Biology*)

2. Wu, Y., **Ye, Q.**, Chen, S., Chen, K., Ma, S., Chang, Y. and Shi, X., 2024. Response of phytoplankton functional group to spring drought in a large subtropical reservoir. *Journal of Oceanology and Limnology*, pp.1-11.

3. Wu, Y., **Ye, Q.**, Chen, S., Jiang, L., Chen, K., Ma, S., Chang, Y., Liu, J. and Shi, X., 2024. Climate changes drive phytoplankton community through complementarity and selection effects in a large mesotrophic reservoir. *Journal of Oceanology and Limnology*, pp.1-15.

4. Chen, S., Jiang, L., Ma, S., Wu, Y., **Ye, Q.**, Chang, Y., Ye, Y. and Chen, K., 2024. Response of a submerged macrophyte (*Vallisneria natans*) to water depth gradients and sediment nutrient concentrations. *Science of The Total Environment*, 912, p.169154.

5. Yu, C., Wang, H., Blaustein, R.A., Guo, L., **Ye, Q.**, Fu, Y., Fan, J., Su, X., Hartmann, E.M. and Shen, C., 2022. Pangenomic and functional investigations for dormancy and biodegradation features of an organic pollutant-degrading bacterium *Rhodococcus biphenylivorans* TG9. *Science of The Total Environment*, 809, p.151141.

Research

Northeastern University
2024 - 2029

Department of Marine and Environmental Sciences

As a Ph.D. student working with Prof. Cristina Schultz, I'm dedicated to evaluating the influence of benthic processes and terrestrial input on coastal nutrient cycles and water quality. In particular, I am:

- Compiling and integrating data from long-term observational records, hydrological datasets, and high-resolution ocean biogeochemistry models to build a comprehensive database for analyzing nutrient fluxes, oxygen dynamics, and sediment properties.
- Investigating the relationships among key environmental factors in PIE, particularly the role of benthic processes in regulating nutrient cycling and oxygen availability.
- Comparing patterns across estuaries by examining how PIE's nutrient fluxes, oxygen dynamics, and sediment properties differ from other northeastern U.S. estuaries, while exploring connectivity between these coastal systems.
- Assessing the impact of extreme events (e.g., storms, heatwaves) on estuarine dynamics and developing guidelines for future long-term monitoring and data integration to improve our understanding of estuarine resilience.

Chinese Academy of Sciences
2021 - 2024

Nanjing Institute of Geography and Limnology

As a research associate working with Prof. Kaining Chen and Prof. Xiaoli Shi, I focused on exploring the relationships between phytoplankton and the water column in lakes and reservoirs. In these projects, I:

- Investigated the mechanisms behind algal blooms caused by changes in nutrient concentrations, meteorological and hydrological conditions with long-term monitoring data series.
- Studied the impact of global warming on drinking water sources.

China University of Geosciences (Beijing)
2018 - 2021

Institute of Earth Sciences

The title of my master's thesis is An Improved Method for Precise Selenium Isotope Determination. Under the guidance of Prof. Jianming Zhu, I:

- Improved the testing method for precise selenium isotope determination.
- Tested and reported the selenium isotope ratios of a series of standard samples.

Zhejiang University
2016 - 2017

College of Environmental and Resource Sciences

The title of my undergrad's thesis is Hormesis Response of Polychlorinated Biphenyls to *Escherichia Coli*. Under the guidance of Prof. Chaofeng Shen, I:

- Established a microplate based, high throughput test method for *E. coli* growth.
- Identified the types of PCBs that can show the hormesis response on *E. coli* growth and investigated the mechanisms.

Interests

- Relationships between climate change, human activities, and aquatic system.
- Environmental complex systems modeling using `R` and `Python`.
- Large-scale dataset modeling and simulation.
- Environmental sustainability and environmental geochemistry.

Teaching

Northeastern University — Spring 2024

Teaching Assistant, Department of Marine and Environmental Sciences

- Served as the instructor of 2 sections of Lab for Biostatistics (ENVR 2501), an undergraduate course, each with 19 students.
- Presented a one-hour lecture per section on advanced statistical methods in **R** (Bayesian/frequentist approaches, linear/generalized linear models, mixed-effects models, multivariate statistics, and ensemble modeling), followed by a two-hour Q&A session every week.
- Provided hands-on guidance, working closely with students on real-world data analysis to ensure they developed strong practical skills in **R**.

Academic Services

Freshwater Biology — 2024

Peer Reviewer

- Evaluated and provided feedback on manuscripts related to freshwater ecosystems, assessing scientific rigor, methodology, and ecological significance.

Scholarships

- Full Scholarship Ph.D. Program, Northeastern University. — 2024
- Second-Class Academic Scholarship, China University of Geosciences. — 2019, 2020

Skills

Programming & Software

- Proficient in **R** and **Python** for data analysis and computational tasks.
- Experienced in large-scale modeling in high-performing computing environment.
- Skilled with ArcGIS, MIKE Zero, Origin, LaTeX, Microsoft Office, Adobe Creative Suite.

Laboratory & Field Work

- Proficient in field navigation for locating sampling sites using portable GPS devices.
- Proficient in sample collection and preservation (water, sediment, phytoplankton, zooplankton, aquatic plants, etc.).
- Proficient in chemical laboratory skills, including sample preparation and testing.
- Proficient in ultra-clean laboratory procedures such as isotope sample preparation.
- Skilled in the operation and maintenance of experimental instrumentation including UV-Spectrophotometer, Atomic Fluorescence Spectrometer (AFS), Inductively Coupled Plasma Mass Spectrometer (ICP-MS), and Multi-Collector ICP-MS (MC-ICP-MS).

Languages

- Chinese: Native.
- English: Full professional proficiency.

Activities

Northeastern University — 2024 - Present

Member of the Ph.D. Student Council, College of Science

- Serve as a liaison between the Dean's Office and Ph.D. students, ensuring their concerns and suggestions were represented.
- Build community among Ph.D. students across different departments through events and programs, fostering collaboration.
- Provide a platform for sharing ideas, addressing issues, and encouraging constructive dialogue within the College.