Wenqian XU

Seeking a postdoctoral position in Marine Microbiology Using Omics starting from mid-2025

Born: Dec. 1995, Chongqing, China
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MBTI Personality: ESTJ in work (plan things ahead); ESTP in daily life (too lazy to plan)
Hobbies: Diving; Snowboard; Motorbike riding; Tennis; Board games
Current: Ph.D. Candidate in Prof. Charmaine YUNG's lab (https://www.charmaineyung.com/)

Education

■ **Ph.D.** 2020-2025
Marine Environmental Science, The Hong Kong University of Science & Technology (HKUST), Hong Kong SAR, China

■ **MPhil** 2017-2020
Environmental Science & Engineering, Chongqing University (CQU), Chongqing, China

■ **B.S.** 2013-2017
Environmental Engineering, Nanjing University of Science & Technology (NJUST), Nanjing, Jiangsu Province, China

Skills

- **Language** — English; Chinese
- **Analysis& Bioinformatics** — **Amplicon sequencing; Network analysis; Time-series Analysis; Pangenome analysis; Single-cell amplified genome; Shotgun Metagenomics; Long-read Metagenomics; Metatranscriptomics; Proteomics; Metabolomics**
- **Lab work** — **DNA/RNA extraction; Library construction for NGS; Single-cell amplification; Flow cytometry; Cell sorting; qPCR**
- **Field work** — Non-seasick after one pill and stubborn worker on boat; **Scuba diving** for research purpose in both warm and **cold waters** within 30 m depth
- **Certifications** — PADI Rescue Diver (>350 dives); PADI Enriched Air Diver; PADI Dry Suit Diver; PADI Sidemount Diver

Research during Ph.D.

■ **Single-cell Project** Jan. 2021-now Ongoing

Distribution and genomic diversity of small marine mixotrophic and heterotrophic protists in subtropical coastal waters

I used target cell sorting to isolate potential mixotrophs and heterotrophs, followed by single-cell amplification and metagenomic sequencing to obtain genomic data. Current work is dedicated to recovering high-quality protistan genomes and analyzing their diversity and distribution patterns.

■ **Time-series Project** Sept. 2020-2024 Published

Revealing the Intricate Temporal Dynamics and Adaptive Responses of Prokaryotic and Eukaryotic Microbes in the Coastal South China Sea

My lab mates and I conducted monthly sampling of two size fraction for two years. I studied dynamic patterns and correlations with environmental factors at both microbial community and genome level (including eukaryotic MAGs).

■ **eDNA Project**
Oct. 2022-2024
Paper in preparation

Spatiotemporal Dynamics of Subtropical Coastal Ecosystems: Integrated eDNA Metabarcoding Study of Biodiversity and Multi-trophic Interactions
Collaboratively collected 108 benthic samples across Hong Kong's diverse coastal waters in four seasons. Utilizing eDNA metabarcoding, visual surveys, flow cytometry, and environmental measurements, I investigated macroecological patterns and multi-trophic interactions in coastal ecosystems.

■ **MAG Project**
Oct. 2023-now
Ongoing

Genome-Resolved Diversity and Interactions of Small Marine Protists and Prokaryotes in the South China Sea
Utilizing 9 HiFi long-read and 386 shotgun metagenomic datasets (124 in-house and 242 published samples), me and my lab mate Yangbing recovered MAGs from various microbial domains. Current work focuses on identifying high-quality MAGs and analyzing their genetic diversity in relation to trophic strategies and spatiotemporal dynamics.

Publications

1. **Xu, Wenqian**, Yangbing Xu, Ruixian Sun, Elvira Rey Redondo, Ka Kiu Leung, Siu Hei Wan, Jiying Li, and Charmaine CM Yung*. "Revealing the intricate temporal dynamics and adaptive responses of prokaryotic and eukaryotic microbes in the coastal South China Sea." **Science of The Total Environment (2024)**: 176019. https://doi.org/10.1016/j.scitotenv.2024.176019
2. **Xu, Wenqian**, Cindy Lam, Yijin Wang, Siu Hei Wan, Pun Hang Ho, Jaewook Myung, and Charmaine CM Yung*. "Temporal succession of marine microbes drives plastisphere community convergence in subtropical coastal waters." **(Submitted, 2024)**
3. **Xu, Wenqian**, Jiangyu Ye*. "Initial Effects of Compound Microbial Preparation on Water Quality of Framing System and Intestinal Microbial Community of High-Density Cultured Red Claw Crayfish (*Cherax quadricarinatus*)." Journal of Microbiology **(2020)**: 58-66. https://doi.org/10.3969/j.issn.1005-7021.2020.05.008 **(In Chinese)**
4. **Xu, Wenqian**, Jiangyu Ye*. "Bioaugmentation to recover the impact caused by nonivamide in a sequencing batch reactor." Industrial Water Treatment **(2020)**: 84-89. **(In Chinese)**

Conferences

- **XMAS Jan. 2025** — **The Xiamen Symposium on Marine Environmental Sciences; Xiamen, China**
  Poster presentation: Spatiotemporal Dynamics of Subtropical Coastal Ecosystems: Integrated eDNA Metabarcoding Study of Biodiversity and Multi-trophic Interactions.
- **CGUE Sept. 2024** — **2024 CGUE Conference on Unicellular Eukaryotes; Sant Feliu de Guixols, Spain**
  Poster presentation: Genome-Resolved Insight into the Diversity and Function of Small Marine Protists in Subtropical Waters.
- **GRC & GRS Jun. 2024** — **Gordon Research Conference Marine Microbes; Les Diablerets, Switzerland**
  Gordon Research Seminar Marine Microbes; Les Diablerets, Switzerland
  Poster presentation: Unveiling the temporal dynamics and functional traits of prokaryotic and eukaryotic microbes in the coastal South China Sea
- **HKB Apr. 2024** — **International Webinar Series for Young Scholars: Cutting-edge Research on Marine Science and Engineering; Hong Kong SAR, China**
  Oral presentation: Taxonomic, Functional, and Genomic Dynamics of Marine Microbes in Coastal Waters of the South China Sea