



The University of Hong Kong
School of Biological Sciences

**Qualifying
Seminar**

Shaping the Biosphere: Human Impacts on Biodiversity and Ecosystem Functioning

Date: 2024/02/21 (Wed)

Time: 10:00

Venue: 6N-11, KBSB, HKU



About the speaker:

Wilson, Zhongyue Wan is a 2nd year PhD study in the Coral Biogeochemistry Laboratory. His work focuses on marine biodiversity and ecosystem functioning assessment.

Abstract:

For better or for worse, every action we take on the planet shapes the biosphere. We ban trawling, set up marine reserves, actively make policies and initiatives to restore degraded habitats. Nonetheless, we dredge the seafloor, release effluent into the ocean, build fish farms, and shrimp ponds along the coastline to satisfy our interest. Together, all these actions and counter actions created a complex web of impacts bearing down on nature. How do we measure the health of the ecosystems which our very existence hinges on amidst all sorts of human activities? Historically, A expansive range of physical, chemical, and biological indicators have been used to answer this question.



In this study, I am diving into this topic with a biodiversity and ecosystem functioning approach. On one hand, I use a combination of the Autonomous Reef Monitoring Structures (ARMS), and environmental DNA (eDNA) to study biodiversity which has been shown to be crucial to the resistance and resilience of an ecosystem facing various stressors. On the other hand, I apply an array of assays on different ecosystem functions which collectively is the foundation that sustain the integrity of the system. With this tool kit, I look at how human activities, particularly in an urban environment where the impact is acute, shapes biodiversity and shifts ecosystem functioning. By the end of this work, I aim to devise an accessible yet comprehensive toolkit for marine biodiversity and ecosystem functioning study to provide insight into future development and conservation efforts.