The University of Hong Kong
School of Biological Sciences

Qualifying Seminar

Marine Cryptobenthic Community Dynamics in Urbanized Coastal Seascapes

Date: 2026/10/21

Time: 16:00

Venue: 6N-11, KBSB, HKU

About the speaker:

Wilson Zhongyue Wan is a PhD candidate co-supervised by Prof. David Baker and Prof. Shelby McIlroy. His work focuses on urban ecology and community ecology.

Abstract:

Coastal cryptobenthic communities are fundamental to marine ecosystem functions and services, yet they remain largely overlooked in biodiversity research. As anthropogenic pressures intensify across the world, critical gaps persist in our understanding of how these communities change along environmental and spatial gradients. Using Autonomous Reef Monitoring Structures (ARMS) and COI metabarcoding, my work addressed these gaps in three studies built progressively from experimental manipulation to seascape-scale synthesis—revealing how environmental and spatial processes interact to drive cryptobenthic community dynamics in urbanized coastal ecosystems. Together, these findings demonstrate that coastal benthic communities are shaped by the combined effects of environmental and spatial processes. They are vulnerable to nutrient pollution, yet remain remarkably resilient when stressors are removed, and source populations are accessible. Effective conservation of these benthic communities must therefore integrate nutrient mitigation with the protection of spatial connectivity—twin pillars of benthic resilience in urbanized seascapes.