The University of Hong Kong
School of Biological Sciences

Qualifying Seminar

Oyster reef restoration in a changing world: a framework from practice

Date: 19th May 2026

Time: 15:00

Venue: 6N-11

About the speaker:

Hongzhang Chen is a PhD student supervised by Prof. Bayden Russell. His work centers on restoring oyster reefs under habitat loss and climate change, integrating field and laboratory experimental approaches.

Abstract:

Oyster reefs—formed by stacked oyster colonies—are highly productive habitats that enhance fishery yields, promote biodiversity, improve water quality, and provide coastal protection. Yet, over 85% of global oyster habitat has been lost to human activities over the past century. Starting from a restoration case at Hong Kong International Airport's third runway reclamation area, we demonstrate, through one-year monitoring, the effectiveness of oyster reef rehabilitation for local ecosystem recovery. We further investigate the mechanism of oyster shell cues in attracting conspecific larvae, and examine the sensitivity of early-life-stage oysters to extreme summer conditions driven by climate change. Our findings provide a practice-grounded framework for oyster reef restoration, highlighting the importance of substrate optimization and early-life stressor thresholds in improving restoration outcomes under a changing climate.