The University of Hong Kong
School of Biological Sciences

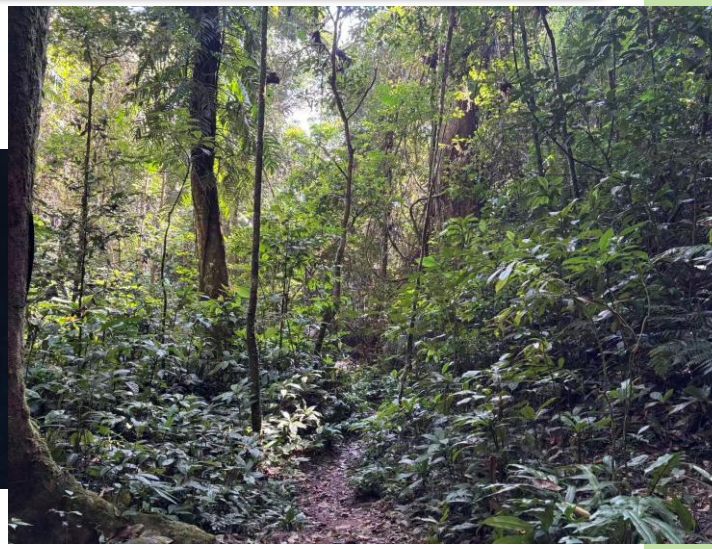
Qualifying Seminar

From Global Patterns to Local Dynamics: A Multi-Scale Investigation of Invertebrate Communities Amidst Multiple Stressors Affecting Forest Ecosystems

Date: 30th April 2026

Time: 3:00 PM

Venue: 3N-01



About the speaker:

Ruiming NIE is a PhD candidate supervised by Prof. Louise ASHTON and Prof. Timothy BONEBRAKE. His research focuses on how invertebrate communities change across forest succession and under climate extremes

Abstract:

Forest ecosystems are increasingly shaped by the interplay of land-use change and climate extremes, yet the responses of invertebrate communities remain poorly understood across scales. This PhD research integrates global synthesis with local empirical studies to address this gap. Preliminary results from long-term monitoring in undisturbed Bornean rainforest reveal that the 2015–2016 El Niño drought caused a delayed decline in ant genus richness, with post-drought levels significantly lower than pre-drought values. However, functional diversity remained stable across drought phases, indicating that functional redundancy buffers against species loss. These findings underscore that intact primary forests serve as critical refugia for functional resilience, whereas logging compounds climate impacts. This research advances predictive understanding of forest recovery and identifies practical bioindicators for ecosystem management under intensifying climate change.