



The University of Hong Kong
School of Biological Sciences

**Public
Seminar**

Drivers of Plant and Rhizosphere Community Assembly in Hong Kong's Regenerating Secondary Subtropical Forests

Date: 11 February 2025 (TUE)

Time: 16:00

Venue: zoom



About the speaker:

Coşkun Güçlü is a doctoral candidate in Dr Louise Amy Ashton's Biodiversity and Environmental Change Group. Coşkun investigates community assembly in forest plant and soil microbial communities during the processes of passive secondary succession and active forest restoration initiatives. He uses a range of statistical, *in situ* field-based and molecular techniques to track spatial and temporal changes in biodiversity across broad taxonomic groups, and how these influence ecosystem functions and services.



Abstract:

Secondary forests represent an increasing proportion of global forest cover and dominate the East Asian tropics and subtropics. Hong Kong's secondary forests have been regenerating through passive secondary succession and active reforestation following historical clearances in the mid-20th century. I investigated the impact of forest secondary succession and restoration upon i) aboveground plant species beta-diversity and phylogenetic structure; ii) the belowground rhizosphere including bacterial, mycorrhizal and invertebrate community assembly and; iii) soil carbon flux and organic carbon formation throughout my doctoral research. I found that Lowland and Montane forests exhibited differential patterns of plant community assembly with spatial constraints during secondary succession in Hong Kong. Additionally, I found that during active and passive forest restoration, fungal and bacterial communities show similar community assembly processes but differential carbon-based ecosystem functions.