



The University of Hong Kong
School of Biological Sciences

**Public
Seminar**

Global effects of soil invertebrates on litter decomposition and plant nitrogen assimilation

Date: 17 January 2025 (Fri.)

Time: 4:00 pm

Venue: 6N-11 + Zoom

About the speaker:

Xiaoyi Zeng is a PhD candidate supervised by Dr. Louise Ashton, focusing on the ecological functions of soil invertebrates.

Abstract:

Soil invertebrates play important roles in the decomposition of dead organic matter, yet their contributions are often overlooked. I quantified the effects of invertebrates on leaf litter decomposition and plant nitrogen assimilation across climatic regions. Through meta-analysis, I showed that invertebrates contribute to 31% of forest leaf litter decomposition, with 1.4 times higher contributions in tropical and subtropical forests than forests elsewhere. Moreover, invertebrate-mediated decomposition appears to be resilient to global environmental changes such as land use change. I used manipulative field experiments integrating stable isotope and metabarcoding techniques to quantify the role of invertebrates in plant assimilation via litter decomposition in tropical, subtropical and temperate forests. I found that invertebrates are important for redistributing soil nutrients and mediating the assimilation of nitrogen by plants, particularly at low latitudes.

