



The University of Hong Kong
School of Biological Sciences

Guest Seminar

The response of a seasonal tropical forest to diurnal, seasonal, and ENSO-driven water stress: a view from Barro Colorado Island

Date: February 24th, 2025

Time: 14:00

Venue: SBS 3N01



About the speaker:

Matteo Detto is a forest ecologist at the High Meadows Environmental Institute of Princeton University. His research focuses on ecosystem-scale processes related to the water and carbon cycles, as well as the mechanisms underlying biodiversity. He aims to understand the resilience of tropical forests to climate change.



Abstract:

Many tropical regions are experiencing intensified droughts, marked by increasing severity and frequency. The ecosystem responses to these changes remain highly uncertain. Tropical forests adapt to water stress through physiological controls, such as stomatal regulation and phenological adjustments, operating across a broad range of temporal scales. Strategies to cope with increasing atmospheric water demand and reduced water supply often interact with other environmental stressors, including light availability and thermal acclimation. However, the interactions between biological processes and co-varying environmental factors that drive ecosystem-level fluxes are still poorly understood.

I will present results derived from data analysis and modeling efforts based on observations collected in the tropical forest of Barro Colorado Island (BCI). Situated on the Isthmus of Panama, BCI is among the most extensively studied tropical sites, offering valuable insights into the complex dynamics of tropical ecosystems.