

74th FEFCO

Forest Ecosystem Function Colloquium (FEFCO) は、地域や地球全体のレベルで森林生態系の機能とその持続的活用法を統合的に理解することを目的とし、研究者間の学術交流を推進します。

第74回森林生態系機能コロキウムは、沖縄科学技術大学院大学(OIST)よりSamuel Ross博士にご講演いただきます。どなたでも参加できますので、多くの皆様のご参加をお待ちしております。京都大学農学研究科熱帯環境学研究室がホストを務めます。

74th FEFCO

2025/2/28 16:00-18:00

Former Head Office of Forest Research Station
& zoom



↑ For online
registration

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Microphones, models, and mesocosms for understanding ecological stability across scales

Understanding the biological processes that promote the invariable and resilient ecosystem services on which humanity depends has been a core focus of ecology for decades. Using randomly structured community models, Robert May showed that diversity is destabilising, so what then explains the vast biodiversity we observe in the real world? There have been many answers from different study systems, often resulting in the classical ecological observation: "it depends". To distil general understanding from a sea of idiosyncrasy, we need to consider a variety of systems and scales. Here, I present experiments using freshwater mesocosms (buckets), data collected on typhoon disturbance in the field using passive acoustic monitoring (microphones), and models of "response diversity" to describe patterns and drivers of ecological stability across scales. I propose that systems that exhibit a diversity of environmental responses across different organisms (response diversity) or different sites (spatial insurance) should be more stable. Finally, I introduce recent efforts to coordinate international research on the drivers of stability through the nascent Response Diversity Network.