

65th 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65回森林生態系機能コロキウムは、ハワイ大学よりRebecca Ostertag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。

65th FEFCO
2023/6/15 16:30 - 18:00
Faculty of Agriculture Main Building, W406



↑ Zoom form for registration

Dr. Rebecca Ostertag
(Professor, University of Hawaii at Hilo, USA)

Using plant functional traits to design forest restoration : an example of hybrid ecosystem restoration in an invaded Hawaiian lowland wet forest

Plant functional traits recently have been suggested to be useful for restoration planning. The Liko Nā Pilina hybrid ecosystem experiment in Hilo, Hawaii, USA employed functional traits to design and test the suitability of different species combinations, using native and introduced (but non-invasive) species to meet the objectives of increased carbon storage, native biodiversity regeneration, and invasion resistance. In this case, restoration to a previous reference condition was not feasible. After the first five years of their development, we evaluated community-level outcomes related to nutrient cycling: carbon, nitrogen, and phosphorus via litterfall, litter decomposition, outplant productivity, rates of invasion, and leaf litter arthropod species composition. We found that regardless of treatment, the experimental communities had low rates of nutrient cycling through litterfall relative to the invaded forest. In addition, which treatment did "best" depends on the metric being assessed. This seminar will include a discussion of how hybrid ecosystems represent a paradigm shift, how potential metrics of belonging within an ecosystem may be developed, and how new policies can support these efforts. Although challenges remain, this study provides evidence that functional trait-based restoration approaches to carefully select species and to assess ecosystem functioning can achieve management goals.