

# 48th 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。

森林生態系機能コロキウムは、どなたでも参加できます。多くの皆様のご参加をお待ちしております。  
今回は、京都大学農学研究科森林水文学研究室がホストを務めます。

48th FEFCO  
2019/1/24 13:30 - 15:30  
Faculty of Agriculture Main Building, S174  
Dr. Molly Cavaleri  
Michigan Technological University

Above, below, and in-between: How plant-soil interactions both respond to and help dictate lowland tropical forest responses to warming

Due to the enormous amount of carbon, water, and energy tropical forests exchange with the atmosphere, there is substantial interest in refining our understanding of how these forests will respond to environmental changes such as a warming climate. While a high level of biodiversity suggests the potential for ecosystem-level resilience to increasing temperature, the data that do exist suggest that lowland tropical forests may indeed be quite sensitive to even subtle changes in temperature due to (1) already warm temperatures and (2) organisms that evolved and developed with low diurnal, seasonal, and interannual temperature variation. Here I will describe a novel lowland tropical forest warming experiment in Puerto Rico: Tropical Responses to Altered Climate Experiment (TRACE). We use infrared warming lamps to heat understory plants and soils, as well as canopy warming infrastructure, to explore the relationships between temperature, plant physiology, soil respiration and fertility, and the biogeochemical exchanges that connect these ecosystem components. We found that tropical forest plants and soils were quite responsive to changes in temperature, and that multiple carbon pools and fluxes were affected. Both photosynthesis and root respiration were quickly affected by the warming treatments, as was the availability of soil nutrients. In this talk, I will synthesize our current understanding of the patterns and implications we've observed in the first year of warming for this unique tropical forest field experiment.

Forest Ecosystem Function Colloquium  
京都大学・森林生態系機能コロキウム

<http://www.bluemoon.kais.kyoto-u.ac.jp/FEFCO/index.html>

