70th FEFCO

Forest Ecosystem Function Colloquium (FEFCO) は、地球や地球全体のレベルでの[illegible]とその持続的活用法を総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70回森林生態系機能コロキウムは、Qing-Wei Wang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。

70th FEFCO

2024/7/10 16:30 - 18:30

Faculty of Agriculture Main Building, W406

& ZOOM

↑ Zoom form for registration

Prof. Qing-Wei Wang

(Institute of Applied Ecology, Chinese Academy of Sciences, China)

Sunlight accelerates aboveground carbon loss across terrestrial ecosystems

Litter decomposition controls the turnover and release of organic carbon (C), and largely determines the C balance dynamics of terrestrial ecosystems. Typically, litter decomposition is thought of as a biological enzymatic process mainly controlled by microorganisms. However, empirical models always underestimate the variation in decay rates in global terrestrial ecosystems. This implies that the models are importantly incomplete: other abiotic drivers or fundamental mechanisms in nature also contribute to this process. Sunlight is not only an essential energy source for photosynthetic C fixation and productivity of terrestrial vegetation, but also can directly or indirectly promote the decomposition of organic matter through photodegradation. Photodegradation has been recently identified as an important driver controlling the decay of litter in drylands, while its relative contribution to C loss is not clear in mesic ecosystems. Furthermore, how photodegradation varies from ecosystem, region to global scale is also uncertain. In this present, I would like to report the advance of our recent research on photodegradation, in order to make more discussion how terrestrial C and nutrient cycles respond to future climate and land use changes.

Forest Ecosystem Function Colloquium

京都大学・森林生態系機能コロキウム