

Biology Promotion Seminar

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http://depts.washington.edu/strmbrgl/StrombergLab_website/Home.html

A siliceous window into the deep past: what phytoliths can tell us about the role of plants in ecosystem evolution



Monday, October 24, 2016 | 12:00pm HCK 132
Refreshments at 11:45am

Documenting how Earth's many ecosystems, each with unique combinations of climate, flora, and fauna, came to be is critical for understanding how ecosystems function today, and will function in the future. My lab's research has focused largely on elucidating the Cretaceous-Cenozoic assembly of grassland ecosystems, which currently occupy 40% of Earth's land surface and provide key agricultural products (e.g., corn, rice). We use fossilized plant silica (phytoliths) to address questions regarding the early diversification of the grass family (Poaceae), the Cenozoic spread of grass-dominated habitats, and the presumed co-evolution of grasses and herbivores. In recent years, this research has expanded in several directions, which I will highlight in this talk. Specifically, current work seeks to (1) uncover biogeographic differences in grassland evolution within and among continents, (2) examine the connection between habitat openness and grass dominance in grassland evolution, (3) investigate links between regional climate, vegetation change, and faunal evolution during critical transitions in Cenozoic global climate (Eocene-Oligocene cooling, middle Miocene warming), and (4) elucidate the evolution and function of silica bodies in plants, vital for understanding past and present plant-herbivore interactions, and the role of plants in the global silica cycle.