

iFAST: The International Forum on Advanced Environmental Sciences and Technology

A series of distinguished seminars by eminent scientists

8:00 pm CDT; 9:00 pm EDT; 1:00 am GMT (Oct 29); 9:00 am Beijing (Oct 29)

Wednesday, October 28, 2020



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Berkeley

<https://nature.berkeley.edu/firestonelab/>

Mary Firestone is a professor of the Graduate School and the Barshad Chair of Soil Sciences at the University of California, Berkeley. She has worked extensively on the roles of soil microorganisms in terrestrial ecosystems, bringing to bear expertise in microbiology, biogeochemistry, soil science, and ecosystem science to globally important questions, including climate change, sustainability, land use change, and environmental contamination. Her research has explored microbial mediation of nitrogen oxidation and reduction processes, including control of nitrous oxide and nitric oxide production; adaptation of microbes to the desiccation characteristic of arid and semi-arid soils, including production of extracellular polysaccharide matrices; and carbon- and nitrogen-based interactions among plant roots and soil organisms. She was active in faculty governance at UC Berkeley, chairing the faculty in 2008. Her work has been recognized by a range of disciplines; she received the Excellence in Ecosystem Science Award from the Natural Resources Ecology Laboratory and a Career Achievement Award from the Soil Ecology Society. She is a fellow of the American Geophysical Union, the Soil Science Society of America, the American Academy of Microbiology, and the Ecological Society of America. She is a member of the U.S. National Academy of Sciences.

Water in Soil: the Basis for Terrestrial System Functioning

Climate change is expected to alter patterns of precipitation and temperature in most regions of the globe. Many areas are expected to experience more extreme droughts and rainfall events. The impacts that these changes will have on plants and associated soil microbial communities will massively impact the functioning of terrestrial systems. How do soil microorganisms mediate plant tolerance to drought and can these potentially beneficial interactions be enhanced? How will predicted patterns of changing climate impact carbon and nitrogen cycling and resulting nutrient availability to plants and stabilization of carbon in soil? This lecture will introduce the functioning of this master variable for life in soil and what we now know about critical circumstances for microbes living in the soil matrix as well as for the plants with which they associate.



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Register for the Zoom conference at www.ou.edu/ieg/seminars

Organizing Committee Chair: Jizhong Zhou (University of Oklahoma, USA; <https://www.ou.edu/ieg>)
Xueduan Liu (Central South University, China)