UC RIVERSIDE

DEPARTMENT OF ENVIRONMENTAL SCIENCES

Soil Science/Pedology Faculty Recruitment Seminar

Thursday, February 8th, 2024 | 2:00 pm
Genomics Auditorium

Wenjuan Huang, Ph.D.

Postdoctoral Research Associate
School of Integrative Plant Science
Cornell University

"Towards a mechanistic understanding of soil organic carbon persistence and decomposition."

Soil organic carbon (SOC) plays a critical role in C sequestration potential. Understanding the mechanisms controlling SOC persistence and decomposition can provide insights into strategies to mitigate climate change. In this seminar, Dr. Wenjuan Huang will outline her research that blends lab incubation, field measurement, and process-based models to understand how biological and geochemical factors interact in controlling SOC composition and stabilization from molecular level to soil system to field scale. She will illustrate the role of lignin in contributing to mineral-associated organic matter and demonstrate how variations in soil properties may differentially impact decomposition of lignin and litter vs. soil C across broad geographic scales. She will also reveal an under-appreciated geochemical mechanism that significantly accelerates C losses from mineral soils with limited O2 availability. She will discuss ongoing research that leverages a long-term field experiment and mechanistic models to quantify and predict SOC changes in diversified cropping systems.

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