

## Sindhu Jagadamma



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Sindhu Jagadamma is a postdoctoral research associate in the Environmental Sciences Division at ORNL. Her research focuses on biogeochemical processes influencing the stability of soil organic matter in terrestrial ecosystems. Integrating such process-based information into global carbon models is useful for improving their simulation accuracy.

She uses a complimentary suite of isotopic, spectroscopic, chromatographic and neutron science techniques to determine the chemical processes responsible for the stabilization of organic matter on soil minerals. Sindhu is currently working on ORNL's Laboratory Directed Research and Development (LDRD) project, "Incorporating molecular-scale mechanisms stabilizing soil organic carbon into terrestrial carbon cycle models." This project integrates soil carbon degradation and stabilization derived from sorption and long-term incubation experiments on a global suite of soils into a globally-relevant soil carbon model. Molecular-scale interactive processes of organic carbon with soil minerals are also studied using neutron reflectivity and molecular dynamics simulation approaches.

Sindhu received her MS and PhD in Soil Science from Ohio State University (OSU). Her dissertation research addressed consequences of land use changes on soil organic matter dynamics in the Midwestern US. Before joining ORNL, she also worked briefly as a postdoctoral fellow at OSU on greenhouse gas accounting from different land management practices. She earned her undergraduate degree in Agricultural Sciences and MS in Soil Science and Agricultural Chemistry from India.

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