

NREL 2017 Ecosystem Science Awardee – Mary Firestone



The NREL established the Award of Excellence in Ecosystem Science in 1997 to be presented to an individual whose independent and interdisciplinary research has contributed to sustained, innovative syntheses and new insights in the study of ecosystems.

This year, we are honored to present the 2017 NREL Award of Excellence in Ecosystem Science to Dr. Mary Firestone, Professor of Environmental Science, Policy, and Management, and Associate Dean of Instruction & Student Affairs at the University of California, Berkeley, in recognition of her many contributions towards increasing the understanding of global change and sustainability.

Mary Firestone is a microbial ecologist and has worked extensively on the roles of soil microorganisms in terrestrial ecosystem function. She is known for her work on microbial mediation of nitrogen oxidation and reduction processes including soil microbial control of nitrous oxide and nitric oxide production, adaptation of microbes to the desiccation characteristic of arid and semi-arid soils, and carbon- and nitrogen-based interactions among plant roots and soil organisms.

Mary earned her B.S. and M.S. degrees in microbiology and Ph.D. in soil science from Michigan State University. She joined the faculty at University of California, Berkeley in 1979 where she has been active in faculty governance, chairing the faculty senate in 2008. Mary received a BBSRC Underwood Fellowship to support her sabbatical research at York University, UK and a Senior Fulbright Fellowship for her work at Lincoln University, NZ. Her work has been recognized by a range of disciplines, reflecting the breadth of areas comprising ecosystem sciences; she is a fellow of the Soil Science Society of America, American Academy of Microbiology, Ecological Society of America, and the American Geophysical Union. Mary was elected to the National Academy of Sciences in May 2017.

The research done in Mary's lab seeks fundamental understanding as well as knowledge relevant to current applied problems such as the use of soil microbiomes to enhance plant tolerance to environmental stresses. Her research program has brought to bear expertise in microbiology, biogeochemistry, ecosystems, and community ecology to globally-important questions including climate change, sustainability, land use change, and environmental contamination.