



The Uniqueness and Commonalities Between Plant, Animal and Soil Microbiomes

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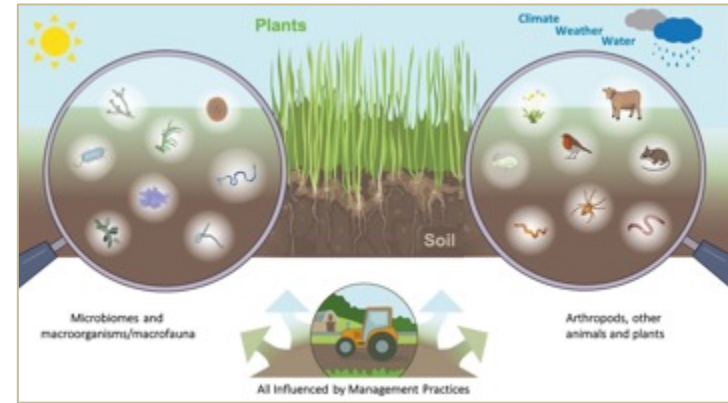
Plant & Animal Genome Conference
San Diego, CA, USA

Phytobiomes Alliance

- Nonprofit, precompetitive research consortium
- Industry, academic and government members
- Paradigm shift in agricultural research and production

Strategy

- Identify gaps in research areas, tools, or technologies, and to develop projects to address them



What are Phytobiomes

- Complex agricultural ecosystems
- Consisting of plants, their environments and their associated communities of organisms

Microbiome-influenced traits have the potential to benefit their hosts and the environment in many ways

There is much to learn before the promise of rational microbiome design can be realized

This workshop will explore advances in our knowledge of the similarities and differences in the function, formation and interactions in these various microbial ecosystems



Considerations for developing rationally designed microbiomes

- a. What additional knowledge is needed to intentionally modulate existing microbiomes?
- b. What factors are most influential in ensuring establishment of externally applied microbes/microbial consortia?
- c. What are effective strategies to link microbiome features to plant and ecosystem health outcomes?
- d. Can/should treatments be tailored for specific soils or environmental conditions?





Workshop topics and speakers

Kirsten Hofmockel Pacific Northwest National Laboratory	Plant-Microbe-Mineral Interactions within the Soil Habitat
Dor Russ University of North Carolina	Shared and Distinct Bacterial Genes Benefit Colonization of Distantly Related Host Plant Species
Jean-Michel Ané University of Wisconsin	Engineering Nitrogen-Fixing Microbial Communities Associated with Maize and Sorghum Roots
John Vogel Lawrence Berkeley National Laboratory	EcoFAB: A Controlled, Reproducible System to Study Plant-Microbiome Interactions
Laramy Enders Purdue University	Understanding Stress Resilience of Plant and Insect Microbiomes in Agroecosystems
	Speaker Panel Discussion