



COLLEGE OF SCIENCE

Hydrology &
Atmospheric Sciences



SEMINAR SERIES

This talk is offered jointly by Hydrology and Atmospheric Sciences Department and the Ecosystem Genomics Initiative (EGI).



Wednesday, April 10, 2024
12:00PM | hybrid

Harshbarger | Room 110
Zoom | <https://arizona.zoom.us/j/86179793429>

Dr. Zhen Li

Lawrence Livermore National Laboratory (LLNL)

Topic: *A framework for integrating genomics, microbial traits, and ecosystem biogeochemistry*

Microbes drive the biogeochemical cycles of earth systems, yet the long-standing goal of linking emerging genomic information, microbial traits and mechanistic ecosystem models has remained elusive despite a wealth of emerging genomic information. We developed a general genome-to-ecosystem (G2E) framework for integrating genome-inferred microbial kinetic traits into mechanistic models of terrestrial ecosystems and demonstrated its application at a well-studied Arctic wetland by benchmarking predictions against observed greenhouse gas emissions.

This work provides the first example of integrating microbial functional trait-based genomics with mechanistic ecosystem modeling. The generalizable G2E framework will enable use of abundant microbial metagenomics data to improve predictions for microbial interactions in many complex systems.

In person? RSVP for lunch by 4/8: https://bit.ly/EG_seminar_series_2024

Questions? Contact: Heather Ingram at hci@arizona.edu

EGI is a nexus for coalescing University of Arizona strengths in environmental science, ecology, genome-enabled science, and 'big data' cyberinfrastructure to address this grand challenge.



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