

iFAST: The International Forum on Advanced Environmental Sciences and Technology

A series of distinguished seminars by eminent scientists

8 a.m. CDT, 9 a.m. EDT, Wednesday, April 8, 2026

1 p.m. GMT, 9 p.m. China, Wednesday, April 8, 2026



JAY T. LENNON

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Jay Lennon is a Distinguished Professor in the Department of Biology at Indiana University and former chair of the Evolution, Ecology, and Behavior (EEB) Section. Lennon's research team is motivated by the ecological and evolutionary processes that generate and maintain microbial biodiversity. In turn, they investigate the implications of diversity for the stability and functioning of ecosystems using molecular biology, mathematical modeling, data synthesis, laboratory experiments and field work in a wide range of habitats. His group has shed light on the role of functional traits for predicting community dynamics. They have documented the importance of dormancy, whereby individuals can enter a reversible state of reduced metabolic activity. His group also integrates microbial life forms with other taxa across the tree of life to test macroecological theory. Among other recognitions, Lennon has been elected to the American Association for the Advancement of Science, the American Academy of Microbiology, and the Ecological Society of America. He was named an ASM Distinguished Lecturer, is a recipient of the Humboldt Prize from the Alexander von Humboldt Foundation, and was selected as a Kavli Fellow by the National Academy of Sciences.

Life in suspended animation: how dormancy gives rise to complexity

Abstract In nature, conditions are typically suboptimal for growth and reproduction. In response, populations across the tree of life have evolved dormancy, the ability to enter a reversible state of reduced metabolic activity. Beyond enhancing persistence and fitness, dormancy gives rise to “seed banks”, which are reservoirs of genetic, phenotypic and functional diversity. By storing information and imparting memory, dormancy generates complexity and enables the emergence of multiscale structures and networks that span from collections of cells to communities to entire ecosystems. After introducing essential criteria and fundamental attributes associated with dormancy, I discuss how it modifies species interactions with implication for eco-evolutionary feedback in microbial communities. Specifically, using genomic and experimental approaches, I demonstrate how sporulation in bacteria alters interactions with viruses in ways that stabilize populations, slow rates of evolution and minimize the spread of pathogens in spatially structured environments.



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Zoom webinar ID: 934 8142 2012 (zoom.us/j/93481422012)

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