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; 1 p.m. GMT; 9 p.m. Beijing
Wednesday, September 8, 2021

Jonathan Levine
PRINCETON UNIVERSITY
https://eeb.princeton.edu/people/jonathan-levine

J. LEVINE'S research emphasizes the controls over species coexistence, plant migration and invasion, and how communities respond to climate change. He conducted undergraduate work in salt marshes at Brown University before heading to UC Berkeley for a Ph.D. focused on plant invasions, followed by postdoctoral work at the Centre for Population Biology at Silwood Park focused on coexistence theory. He spent nine years as an assistant through full professor in the University of California system (UCLA and UC Santa Barbara) developing a research program on species diversity maintenance. He then moved to Eidgenössische Technische Hochschule Zürich in Switzerland, where he served as professor of plant ecology for seven years and expanded his research in climate change and eco-evolutionary directions. In 2019, he moved back to the United States to take a position at Princeton University. He is the recipient of the Ecological Society of America's George Mercer Award and Robert MacArthur Award and a David and Lucile Packard Foundation Fellowship for Science and Engineering and is a Web of Science Highly Cited researcher.

Understanding species responses to climate change: the role of population and community ecology

In the talk, Jonathan Levine will illustrate the importance of basic population and community ecology for understanding and predicting how changing species interactions influence ecosystem responses to climate change. First, he will present field experiments showing how the novel competitive interactions that emerge when species shift their ranges to track warming climate, but do at different rates, strongly determine the fate of alpine plant populations in the Swiss Alps. Levine will then discuss how we can predict the identity of species engaging in these novel competitive interactions in the future. To this end, he will present experiments with a model plant species suggesting that rapid evolutionary changes can influence the rate at which plant populations spread, complicating efforts to forecast species range dynamics based on their current demography. Finally, Levine will explore if we can predict the outcome of novel competitive interactions under climate change without having to conduct countless experiments. To do this, he will use plant functional traits to predict the drivers of competition between annual plant species in California grasslands. Levine will conclude by arguing for the interconnected nature of basic ecological research and that motivated by the need to solve pressing environmental challenges.

INSTITUTE FOR ENVIRONMENTAL GENOMICS
The UNIVERSITY of OKLAHOMA

中南大學
CENTRAL SOUTH UNIVERSITY

Zoom webinar ID: 934 8142 2012 (https://zoom.us/j/93481422012)
More details and previous iFAST seminar videos are available on https://www.ou.edu/ieg/seminars.
Organizing Committee Chair: Jizhong Zhou (University of Oklahoma, USA; https://www.ou.edu/ieg)
Xueduan Liu (Central South University, China)
The University of Oklahoma is an equal opportunity institution. www.ou.edu/eoo