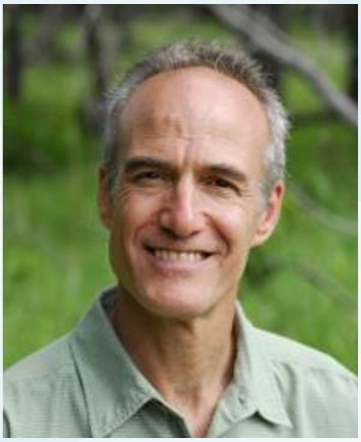
# iFAST: The International Forum on Advanced Environmental Sciences and Technology

*A series of distinguished seminars by eminent scientists*

**8 a.m. CST; 9 a.m. EST; 2 p.m. GMT; 10 p.m. Beijing**

## Wednesday, Nov. 18, 2020




**Peter B. Reich**

University of Minnesota

https://forestry.umn.edu/people/peter-reich


Peter B. Reich is the F.B. Hubachek Professor, Regents Professor and senior chair at the University of Minnesota. He has a joint affiliation as chief scientist at the Hawkesbury Institute for the Environment, Western Sydney University. Reich helped pioneer the development and up-scaling of trait-based ecology and is a world leader in establishing state-of-the-art ecosystem-scale climate change and biodiversity experiments. He also helped launch the science education channel, MinuteEarth, now with over 350 million views. Reich is a member of the U.S. National Academy of Sciences and a BBVA Frontiers of Knowledge Laureate in Ecology and Conservation Biology.

## The strength of simplicity and the challenge of complexity: traits, trade-offs and scaling in an era of multiple global changes

Understanding and stewarding nature is our collective challenge. Will ecosystems continue to sequester carbon and slow climate change? Can traits simplify the complexity of ecology enough that we can make predictable sense of it? Addressing such questions is hard for a single site - how can we quantify such processes at regional and global scales?

Figuring out how diverse ecosystems will respond to multi-factorial global change (climate change, land use, biodiversity loss, etc.) is difficult – due to uncertainty about generality of behavior and scaling among taxa, ecosystems, and biomes; and weak understanding of complex interactions, including plant-soil feedbacks. To help address these issues I engage in studies at scales from leaf to globe and on topics from biodiversity to biogeochemistry. This work ranges from identification of global trait-tradeoff and metabolic response functions; to ecosystem-scale experiments with factors such as CO2, temperature, rainfall, fire and biodiversity; to cross-continental observations and earth system modeling. Using examples from diverse ecosystems – including boreal forest, temperate grassland, and tropical savanna - I will show how framing research around fundamental hypotheses about complex issues can help uncover both predictable general patterns and unexpected surprises.

INSTITUTE FOR ENVIRONMENTAL GENOMICS
The UNIVERSITY of OKLAHOMA

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**Register for the Zoom conference at 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)**