

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

*A series of distinguished seminars by eminent scientists*

**8 p.m. CDT, 9 p.m. EDT, Wednesday, April 20, 2022**

**1 a.m. GMT, 9 a.m. China, Thursday, April 21, 2022**



**Brian Joseph Enquist**  
**UNIVERSITY OF ARIZONA**

<https://brianjenquist.wordpress.com/>

B. J. Enquist is a broadly trained ecologist and botanist whose research program investigates the origin and maintenance of biological diversity and the functioning of the biosphere. Enquist's lab uses of biological scaling laws and develops general trait-based theory. Applications of this research is used to 'scale up' to show how changes in climate then ramifies to influence biodiversity and ecosystem functioning. His lab strives to develop a more integrative, quantitative, and predictive framework for biology, community ecology, and global ecology. He has published over 300 scientific papers. He is recipient of a Fulbright Scholarship to study in Costa Rica, the Ecological Society of America's Mercer Award, a National Science Foundation CAREER Award, and he was named one of Popular Science's Brilliant 10 young scientists. He has been awarded fellowships for advanced studies at (i) Charles University/ The Center for Theoretical Study in Prague, Czech Republic, (ii) the French National Centre for Scientific Research, in Montpellier, France, and (iii) the Oxford Martin School at Oxford University in the United Kingdom. Enquist was elected a fellow of the Ecological Society of America and the American Association for the Advancement of Science. Enquist received his doctoral degree (Biology) in 1998 at the University of New Mexico with James H. Brown. After graduating, Enquist was a National Science Foundation postdoctoral fellow at the Santa Fe Institute, and the National Center for Ecological Analysis and Synthesis at University of California at Santa Barbara. He is currently a professor in the Department of Ecology and Evolutionary Biology at the University of Arizona. He is an external faculty member of the Santa Fe Institute, an independent, nonprofit theoretical research institute located in Santa Fe, New Mexico, dedicated to the multidisciplinary study of the fundamental principles of complex adaptive systems.

## **The future of biodiversity and the functioning of the biosphere in the Anthropocene**

To meet the ambitious objectives of biodiversity and climate conventions, guidance is needed to identify and predict which land areas and taxa have the potential to generate the greatest synergies between conserving biodiversity and nature's contributions to people. I argue that any general theory for the fate of the biosphere and efforts to conserve biodiversity will need to focus on two key attributes of taxa, the drivers of global rarity and variation in organismal body size. These two attributes disproportionately impact probability of extinction and ecosystem functioning. Estimates of global species abundance distributions and body size distributions are foundations to build a predictive theory of the biosphere as well as risk assessments and conservation planning in this era of rapid global change.



**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](http://www.ou.edu/eoo)