



Indian Institute of Science Education  
and Research Thiruvananthapuram  
भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान तिरुवनंतपुरम

Institute Colloquium by

**Prof. John J. Wiens**

*Department of Ecology and Evolutionary  
Biology, University of Arizona*



*“ The origins, discovery, and future of global biodiversity ”*

**Tuesday, 05 August 2025**

**05:00 PM**

**Aryabhata, Lecture Hall Complex**

**IISER Thiruvananthapuram**





## About the Speaker

**Prof. John J. Wiens** is a renowned evolutionary biologist and ecologist at the University of Arizona, internationally recognized for his influential contributions to understanding the origin and distribution of global biodiversity. His lab focuses on three core areas: (1) applying phylogenetic approaches to broad conceptual questions in ecology and evolution, (2) advancing the theory and methodology of phylogenetics, and (3) investigating the phylogeny, evolution, and ecology of reptiles and amphibians. Within these domains, his research addresses topics such as species richness patterns, speciation, niche evolution and conservatism, life-history evolution, adaptive radiation, ecological diversification, and responses to climate change. Prof. Wiens combines field and lab-based collection of genetic, morphological, ecological, and physiological data with bioinformatic, computational, and theoretical approaches. Prof. Wiens is among the world's most highly cited researchers, with an h-index over 100 and several publications exceeding 1000+ citations. He has also received numerous honors, including the ISI Highly Cited Researcher designation, the President's Award from the American Society of Naturalists, and distinguished lectureships at multiple institutions.

## Abstract

In this talk, I will give an overview of recent work by my collaborators and myself looking at the origins, current knowledge, and future of species richness. First, I will describe our work on the origins of species richness patterns, especially those related to differences in species richness among clades (e.g. the dominance of angiosperms in plants and arthropods in animals), over space (e.g. the latitudinal diversity gradient), and among traits (e.g. the preponderance of species with sexual reproduction). Second, I will describe our recent work looking at how our knowledge of biodiversity is changing over time, including rates and patterns of discovery of new species, genera, and families. Third, I will talk about our recent work on the loss of biodiversity, including the rates, patterns, and causes of recent extinctions and the current and future impact of climate change.

