



## PLENARY LECTURES

### LIZARD DIVERSITY: ORIGINS AND FUTURE

John J. WIENS

*Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, Arizona, 85721-0088, United States of America, Email: [wiensj@email.arizona.edu](mailto:wiensj@email.arizona.edu)*

In this lecture, I will briefly present recent research from my lab addressing three main questions: (1) what are the relationships among lizard families? (i.e. where do lacertids fit relative to other families?); (2) what explains differences in species richness among lizard clades? and (3) how will climate change impact the future of lizard diversity? For the first part, I will describe our recent analyses of squamate phylogeny using data from multiple nuclear genes, morphology, and fossils. I will also describe our analyses combining phylogenomic and supermatrix approaches for squamates, and our analyses of squamate phylogeny using phylogenomic data from thousands of nuclear loci from ultraconserved elements. For the second part, I will discuss our analyses of patterns of diversification and species richness among lizard families, with special emphasis on the relative importance of microhabitat and large-scale climate in explaining these patterns. For the third part, I will discuss our analyses of the potential impacts of climate change on lizard diversity. I will discuss our analyses of rates of climatic niche evolution, rates of climate change, and local extinction. I also hope to include our most recent analyses incorporating introduced species, and our analyses of the impacts of climate change on the Sky Island lizards of southeast Arizona.