

## "A decade of research in Molecular ecology"

Molecular ecology (the use of genetic principles and tools to answer traditional ecological questions) is a rapidly evolving field that has come of age with the advent of modern sequencing technology. This presentation is designed to serve as a broad overview of my research in molecular ecology beginning with my PhD in molecular systematics at the University of Texas at Arlington, through my first postdoc in forensic genetics with the Center of Human Identity, at the University of North Texas Health Science Center, up to my current postdoctoral work on the evolutionary dynamics of an infectious disease affecting amphibians in the Rodriguez Lab at Texas State University. The aim of the talk is to illustrate how fundamental principles of molecular ecology can form the foundation for disparate research topics focusing on diverse organismal subjects spanning from herpetofauna and humans to fungi. To this end, my presentation will discuss: 1) molecular species delimitation in the venomous Asian snake genus *Sinomicrurus*; 2) the leveraging of mitogenomes for the accurate profiling of individuals in forensic genetics; and 3) early phylogeographic insights into the host-pathogen dynamics of the chytrid fungus in the Americas, with emphasis on Texas and Ecuador.