

Autumn 2020: Graduate Seminar in Current Topics in
Quantitative Methods
EEOB 8896.19 - 1 credit hour

New frontiers in measuring biodiversity

Instructors:

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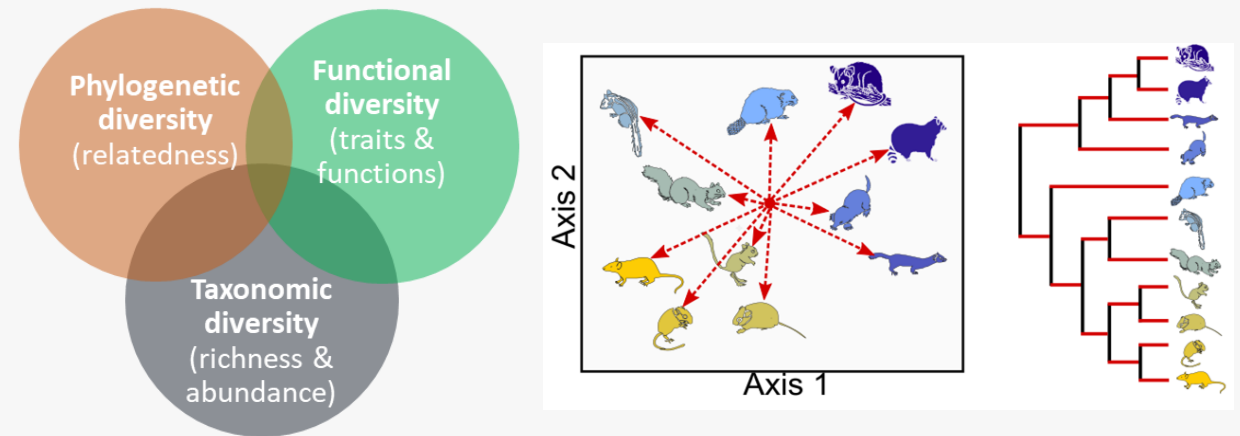
Meeting Times:

First 7 weeks
Day and Time: TBD

Location:

TBD (or online pending COVID-19 restrictions)

The recent development of a multi-faceted concept of biodiversity – including taxonomic, functional, and phylogenetic dimensions – is revolutionizing how diversity is measured, our understanding of how it is generated or disrupted, and how best to conserve it in a changing world. Functional and phylogenetic dimensions of biodiversity recognize the salient ecological and evolutionary differences among taxa, and the rapid growth of species occurrence, trait, and genetic databases has made measuring these dimensions possible for a wider variety of taxa and systems.



Course objectives: Students will be introduced to the concepts and methods for quantifying functional and phylogenetic diversity and their application to fields including but not limited to community ecology, biogeography, macroecology, conservation biology, and landscape ecology. Students will learn about these topics through a combination of literature discussion, exploration of existing trait databases and phylogenetic supertrees, and tutorials using R packages to manipulate trait and phylogenetic data and calculate common diversity indices. The goal of the seminar is to give students the background knowledge, resources, and tools to calculate multiple dimensions of diversity for their study system.