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Plant Ecology

My research centers around study of the causes and consequences of variation in plant community structure over space and time. Much of my current empirical work uses invasive species in Michigan wetlands as model systems to investigate basic processes underlying community structure.



During the academic year, undergraduates can participate in field work around Ann Arbor, conducting greenhouse experiments, and analyzing plant and soil samples from other study sites near the UM Biological Station at Pellston, MI. Summer projects at UMBS are also available.

Other projects

- Spread of buckthorn into diverse calcareous fens in southern Michigan
- Quantifying the contribution of neutral vs. niche processes in maintaining diversity
- Understanding the role of clonal traits on species interactions in plants
- Investigating the mechanisms driving diversity-productivity relationships

Invasive cattails and native coastal marsh ecosystems

Michigan has one native species of cattail (*Typha latifolia*) and two invasive species, *T. angustifolia*, and a very aggressive hybrid between this invasive and the native species, *T. x glauca*. In a series of related projects, we are investigating the consequences of cattail invasions for native biodiversity and nutrient cycling in the marsh, comparing traits of the hybrid and its parents in both field and greenhouse experiments, and beginning study of the hybridization process using genetic markers.

