Nora Mitchell

- **Talk Title**: Evolution and hybridization: Tales from charismatic megaflora

- **Abstract:** Charismatic megafauna may dominate the posters of conservation agencies, but charismatic megaFLORA are excellent and attention-grabbing taxa for researching the ecology and evolution of plants. Understanding the evolution and function of diversity in a group as large and varied as flowering plants requires evidence at many taxonomic, geographic, and temporal scales. I combine approaches from the microevolutionary to macroevolutionary scales to understand the history of two iconic plants: *Protea* of South Africa and *Helianthus* (sunflowers) of Texas. Using a combination of population genomics and phylogenomics, I find evidence for cryptic hybridization and species-level relationship in *Protea* that allow for a deeper understanding of trait evolution. I use experimental evolution to show that hybridization speeds adaptive evolution in Texas sunflowers, and phylogenetic comparative studies to place the role of hybridization in adaptive evolution in a larger context. Both of these systems allow for investigation into the mechanisms generating the astonishing diversity of plants.