



# The Department of Ecology and Evolutionary Biology Fall 2017 Seminar Series



## Using Phylogenomics to Resolve The Compositae Tree



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Plants

The Compositae comprises more than 25,000 species of sunflowers, artichokes, dandelions and daisies, representing 10% of all flowering plant species on Earth. Many species have restricted ranges in areas that are threatened with high extinction rates (e.g., Pacific Islands, Cape Floristic Region) while some are among the world's most noxious weeds (e.g., knapweeds, thistles) and others are economically important crops and cultivars (e.g., food, medicinals, insecticides, garden plants, cut flowers). Similar to other major lineages of organisms (vertebrates, fish, spiders, flowering plants), the family has experienced substantial gene and genome duplication throughout its history, and many of its major lineages have undergone rapid diversification and expansion. Numerous broad (among tribes) and fine scale (within tribes) relationships remain unresolved. I will present our research which utilizes gene capture data (Hyb-Seq), plastomes, and genomes to examine phylogeny reconstruction in order to provide a robust understanding of evolutionary relationships within the family. I will provide a summary of the progress to date including a 100+ genera phylogeny and introduce the initiative to understand The Compositae Tree of Life. Preliminary data indicate a “shake up” of some previously accepted clades and groupings, but much work remains. Through global partnerships, my lab plans to collaborate to broaden taxonomic and geographic coverage of the family to develop a comprehensive and more fully resolved Compositae Tree of Life.

**Friday, September 15, 2017**

**SERF 307 - 3:30 PM**

**Pre-talk Reception 3:00 PM in Dabney 575**