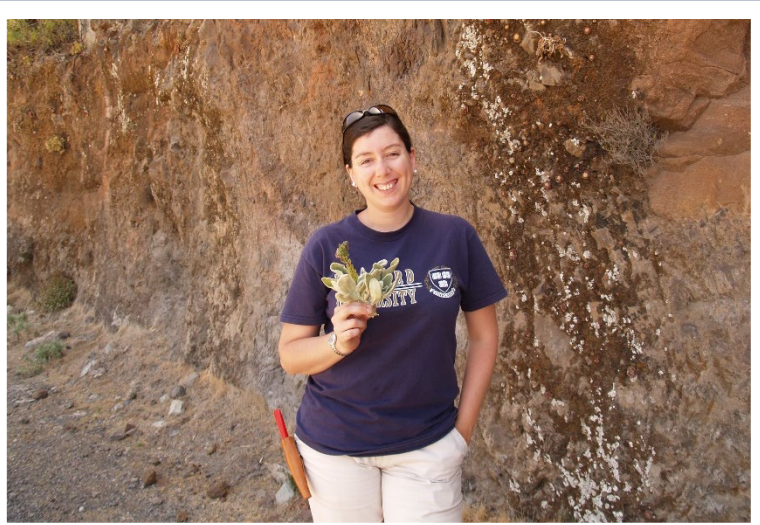

Department of Environmental & Plant Biology
Colloquium

Dr. Pamela Puppo
North Dakota State University

Friday, January 18, 2019
Porter Hall 104 | 11:50am

*“Using morphological, molecular
and genomic approaches to
understand plant diversifications”*



Plants are essential for life on earth: most of our food comes directly or indirectly from plants, they produce the oxygen we breathe, and they are indispensable for the water cycle. Also, plants are the main constituent of our ecosystems, in fact, it is estimated that there are at least 300,000 plant species on earth. But these species are not evenly distributed, and larger areas do not necessarily translate into higher diversity. So, what are the factors behind this uneven distribution of plant taxa?

In this talk, I will present data that supports topographic heterogeneity as a main factor behind rapid diversification events. Using genus *Micromeria* (Lamiaceae) in the Canary Islands as an example, I provide evidence that complex geological events through time are a main driver of speciation. I will continue by briefly discussing about my research using taxonomic studies to understand the ecological consequences of diversification. Focusing on the Andean genus *Calceolaria* (Calceolariaceae), I will argue that taxonomic studies are fundamental for assessing the consequences of diversifications and essential for biodiversity and conservation assessments. I will finish by presenting my current research on the polyploid *Geum triflorum* (Rosaceae), a plant native to North American prairies. Using transcriptomics, I am studying the early stages of diversification and how whole genome duplication might facilitate adaptation to different environments. Combined, these areas of research lead to a more complete understanding of plant diversification patterns.