Poster presentation preferred.

Student presenter

**Untargeted Metabolomic Profiling of *Aquilegia* Floral Nectar via HPLC-MS/MS Analysis.** S. Grinstead, J. Miller-Schulze; CSUS Department of Chemistry, E. Ballerini; CSUS Department of Biological Sciences, Sacramento, CA. The metabolome is the lower pathway product of the genome and the flux which is generated from the rapid production and consumption of metabolites establishes phenotype. This makes untargeted metabolomic research and establishing baseline metabolomic profiles an important focus of study across a variety of biological organisms. Untargeted methods employed in this research project include data deconvolution and spectral matching using MS-DIAL software by Riken. Samples were prepared as an acetonitrile dilution series of composite nectar and were run on an HPLC Orbitrap using a reverse phase Zorbax Eclipse Plus C18 column. The samples were run on both positive and negative ion scans. Two field-collected nectar composites were used in this “proof of concept” work: a composite of *A. formosa* from north-eastern California (ASH) and a composite of *A. pubescens* from central-eastern California (MGP). Once method development is established, a baseline metabolomic profile of the nectar from four *Aquilegia* species, *A. brevistyla, A. canadensis, A. formosa,* and *A. pubescens* will be done via HPLC-MS/MS. Establishing these profiles using both untargeted and targeted methods coupled with statistical analysis of data will generate information which will contribute to research focused on pollinator speciation and environmental influence on the metabolomic profile of these species.