

NAAIC- Abstract Submission

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Linking pollinator behavior to gene flow to improve coexistence

Pollinator foraging behavior can influence pollen dispersal and gene flow. Reduced gene flow can facilitate the coexistence of seed-production markets and diminish the impact of genetically engineered (GE) crops on feral populations. Identifying foraging behaviors that impact gene flow can guide the design of pollinator strategies to mitigate gene flow. We will compare foraging behaviors among three bee species, the European honey bee, *Apis mellifera L.*, the common eastern bumble bee, *Bombus impatiens Cr.*, and the alfalfa leafcutting bee, *Megachile rotundata F.*, foraging on *Medicago sativa* flowers. Behaviors of interest include distances traveled, residence (number of flowers visited in a patch) and tripping rate (proportion of visited flowers whose stigmas and anthers were released). To identify behaviors that impact gene flow, we will rank each behavior by bee species and use this ranking as gene flow predictor that will be contrasted against empirical gene flow data. Besides comparing gene flow among bee species, we will examine the impact of features of the agricultural landscapes such as patch size on the different behaviors. We will discuss how knowledge of behaviors that affect gene flow and of the factors that affect such behaviors can guide the design of management strategies to reduce gene flow.

