1135-34-2201 **Yun Kang*** (yun.kang@asu.edu), **K. Messan**, **G. DeGrandi-Hoffman** and **C. Castillo-Chavez**. *Population dynamics of honeybee: Effects of Disease, Parasites, and Dispersal Behavior.*

Honeybees are an amazing and highly beneficial insect species that play important roles in undisturbed and agricultural ecosystems. Unfortunately, honeybees are increasingly threatened by numerous factors including disease, parasite, dispersal behavior. In this talk, we will present a couple of models to explore: (1) What are the synergistic effects of parasitism and virus infections on honeybee population dynamics and its persistence. And (2) how foraging behavior of honeybees in the presence of varroa mite infestations affect the population dynamics of honeybees and mites, respectively. (Received September 25, 2017)