



# Biotechnology / Life Sciences Seminar Series

## Dr. Pankaj Trivedi

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### *Harnessing plant microbiome to fight citrus greening disease*

Citrus greening or huanglongbing (HLB), caused by phloem limited and insect (psyllid) vectored *Candidatus Liberibacter* spp. is the most destructive disease of citrus worldwide. Florida alone has lost about \$7.8 billion in revenue, 162,200 citrus acres, and 7,513 jobs to citrus greening. Although citrus-*Liberibacter* spp. interactions occur within complex microbiome systems, our knowledge of the intimacy and decisiveness of such interactions with respect to the behavior and survival of participating organisms is still in its infancy. My research uses a suite of traditional (including shovelomics) and advanced ?omics? techniques to understand the evolution and ecology of plant pathogenic bacteria within complex host associated microbiome. I will present my work that has used citrus-*Liberibacter* spp. as a host-pathogen model to understand (a) the association of bacterial communities and phytopathogens with respect to the behavior and survival of participating organisms; (b) the effect of interactions between resident microbial community and the invading pathogen on agro-ecosystem functioning; and (c) exploit beneficial plant-microbe interactions to control plant diseases. This research has provided new directions in HLB control by unearthing the hidden ecology and pathogenic potential through a mechanistic understanding of interaction of *Liberibacter* spp. with citrus microbiome.

**Wednesday, September 13, 2017**

**Seminar 4:00 pm**

**Refreshments served 3:30 pm**

**E103 Beadle Center**

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