

Soil and Water Science Department Seminar

Speaker: **Jian Wu**
Ph.D. Dissertation Degree Candidate

Advisor: Dr. James Graham

Title: **The Interaction Between *Phytophthora nicotianae* and *Candidatus Liberibacter asiaticus* Damage to Citrus Fibrous Roots**

Date: Monday, October 5th

Time: 3:00 pm

Location: McCarty Hall B, Room G086



Since the mid-2000s, the most destructive disease of citrus world-wide, Huanglongbing (HLB) caused by the psyllid-vectored bacterium *Candidatus Liberibacter asiaticus* (Las), has spread rapidly in Florida. Currently, 100% of the groves are affected and approximately 70–80% of all trees are infected and in some level of decline. Root sampling of Las-infected trees demonstrated that asymptomatic trees with detectable Las in fibrous roots already have massive fibrous root loss. Comparison of statewide survey data for seasons since HLB became widespread in Florida groves shows a strong trend toward higher incidence of damaging *Phytophthora* populations coincident with the rise in HLB incidence.

Jian Wu's PhD research in microcosms establishes that prior infection of roots by Las accelerates *Phytophthora* infection and damage of fibrous roots of seedlings and trees. Predisposition of roots to *Phytophthora* is caused by a greater attraction of zoospores, acceleration of infection, and less resistance to root invasion. The Las-*Phytophthora* interaction may not ultimately promote more severe root damage than Las alone but accelerates root turnover.

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