



# The Symbiont Strategy: Rethinking Agrobacterium as a Tool for Developing a Plant Biosecurity Platform to Rapidly Respond to Emerging Plant Pest and Pathogen Threats

will present research we are developing for citrus greening disease that may be an innovative biodefense strategy for a number of crops, including coffee. We have created a diverse team to advance a technology we call the “Symbiont Platform”, a groundbreaking technology that leverages a naturally occurring soil bacterium’s (*Agrobacterium tumefaciens*) ability to locally modify plant cells to grow into a gall that can be engineered into a bioreactor that we call a Symbiont.

This innovative approach enables the inexpensive and abundant production of biomolecules that can either: 1) be used to protect the Symbiont-supporting host plant from biotic or abiotic stress thus improving food and nutritional security, or 2) be accumulated within the Symbiont so that it can be harvested and the desired biomolecule can be extracted and used in numerous applications that enhance plant health (i.e. as applied biopesticides). Because Symbionts can be grown on diverse plant types they can be adapted rapidly to emerging crop biosecurity issues, and because it can be applied without genetically modifying the entire host plant, there is the potential for more rapid approval and better acceptance as a genetic engineering strategy for crop production.



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## **SEMINARIO CIENTÍFICO**

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