



CROP TRANSFORMATION CENTER

OUR **MISSION** IS TO ACCELERATE GENETIC GAIN FOR SPECIALTY CROPS TO IMPROVE HUMAN AND ENVIRONMENTAL HEALTH.



OUR OBJECTIVES ADDRESS THE NEED FOR RAPID DEVELOPMENT AND COMMERCIALIZATION OF GENETICALLY IMPROVED CROPS.

Increase the availability, access, and adoption of new plant varieties, leading to a greater supply and variety of phytonutrient-rich foods

Advanced crop improvement methods use predictive breeding, precision agriculture, and gene editing to accelerate genetic gains and enhance the environmental sustainability of agriculture

Engage producers and consumers in a fruitful dialogue to increase understanding of crop improvement technologies, healthy lifestyle and eating behaviors, and inform center strategies

RESEARCH FOCUS

CTC projects focus on crop improvement across all major crops grown in Florida. Our first project focuses on creating citrus varieties that can tolerate or even resist citrus greening disease, also known as Huanglongbing (HLB). Growers are looking for solutions to the disease, which has caused a 70-80% reduction in production.

Our partners are the Florida Department of Citrus, the Citrus Research & Development Foundation, and NIFA to enable a comprehensive project to evaluate new ideas to combat HLB in Florida. The CTC harnesses core capabilities to activate an end-to-end approach to translate these novel ideas into products for the Florida farmer and consumers.

WHO WE ARE

* Leadership

Charlie Messina | Director and Professor
Eric Triplett | Founder; Professor and Department Chair

* Plant Transformation

Alfred Huo | Lead, Plant Transformation

* Disease Resistance

Rosemary Loria | Lead, Plant Pathology
Zhonglin Mou | Citrus Greening Product Development
Jose Huguet Tapia | Predictive Plant Pathology + Informatics
Nian Wang | Citrus Greening Product Development

* Plant Genome Engineering

Can Baysal | Lead, Virus-Mediated Genome Engineering

* Phenomics

Diego Jarquin | Lead, Multi-OMICS Genetic Prediction + AI
Esteban Rios | Co-Chair, Plant Breeders Working Group
Charlie Li | Robotics, Automation + AI
Kevin Wang | Field Phenomics + AI

* Trait Biology

Kelly Balmant | Lead, Informatics and Transformation
Fredy Altpeter | Transformation Consultant
Kevin Begcy | Gene-Editing Monocots
Alfred Huo | Gene-Editing Dicots
Jeongim Kim | Plant Secondary Metabolism

* Breeding

Marcio Resende | Lead and Co-Chair, Plant Breeders Working Group
Vance Whitaker | Co-Chair, Plant Breeder Workgroup

* External Advisory Board

Renee Lafitte | Director, Crops Research and Development, Gates Foundation
Brian Doyle | Managing Director, Accenture
John Arbuckle | Corteva
Eugenia Saini | Executive Secretary, Regional Fund for Agricultural Technology (FONTAGRO)
Matt Joyner | CEO, Florida Citrus Mutual

* Human Dimensions

Kay Kelsey | Lead, Human Dimensions and Program Evaluation
Lisa House | Consumer Economics, Market Research
Bachir Kassas | Consumer Behaviors and Preferences

ABOUT

The CTC was founded in 2023 to address the need for rapid development and commercialization of genetically improved crops and to specifically address citrus greening in Florida through advanced genetics research and product development. The Florida Department of Citrus and UF collaborated to invest in new greenhouses, equipment, and faculty to deliver advanced agricultural solutions to Florida growers.

Transgenic and/or gene-edited elite germplasm has high potential for commercialization. Our framework focuses on maximizing the chances to deliver a commercial product beyond the ideation stage through the creation of a diverse pipeline that builds upon optimizing gene concepts.

WE ARE PROUD TO PARTNER WITH THE FLORIDA CITRUS INDUSTRY TO DEVELOP TRANSFORMATIVE TECHNOLOGIES AND METHODS TO ADDRESS CITRUS GREENING.

Our methods are based on the most advanced scientific understanding of HLB resistance at UF and the use of advanced computation pathology approaches (AI) will help to mitigate risks and speed outputs.



CORE CAPABILITIES

Artificial Intelligence Center at the Gulf Coast Research and Education Center
Plant Transformation Laboratories Lake Alfred and Gainesville Campus
UF/IFAS Plant Breeding
Plant Breeding Working Group
Precision Agriculture NSF IoT4Ag REC
Phenomics & Field Evaluation
Human dimensions, program evaluation and outreach to increase adoption

JOIN OUR TEAM

The Working Group is hiring faculty and staff for the center and plans to build greenhouses, labs, and other facilities in the next year or so, while simultaneously starting research on HLB- tolerant and -resistant citrus varieties.

The CTC is hiring Ph.D. students and post-doctoral associates.



**Learn more about the CTC
and our upcoming events**

CONTACT

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ADMINISTRATIVE

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MEDIA REQUESTS

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