

UF/IFAS AI AND DATA SCIENCE SEMINAR SERIES

**WEDNESDAY, DECEMBER 3, 2025
1:00P.M. - 02:00P.M.**

FRAZIER ROGERS RM 122

OR

ZOOM:

<https://go.ufl.edu/yb2zh10>

Smart Farming in Action: Turning Agricultural Data into Intelligent Decisions

This presentation highlights the University of Georgia's 4D (Data-Driven and Digital Demonstration) Farm Project, a 90-acre research and demonstration farm designed to show how digital technologies and artificial intelligence can transform agricultural management from reactive to predictive decision-making.

The project integrates data collection from multiple sources—farm operations, IoT sensors, aerial imagery, and manual scouting—to create a continuous data pipeline that supports in-season forecasting and decision-support tools. These tools help farmers manage irrigation, plant growth regulation, and yield optimization with precision. The overall goal is to convert raw data into actionable insights, enabling farmers to make informed management decisions proactively rather than reactively. The project demonstrates the importance of integrated data systems and AI-based forecasting for creating Decision-Assistant Tools—digital agents that advise farmers on what actions to take and when for more sustainable and profitable operations.



DR. GLEN RAINS

BIO

Dr. Glen Rains is a Professor of Entomology and Agricultural Engineering at the University of Georgia, Tifton Campus, where he focuses on applying technology and innovation to advance sustainable agriculture. Dr. Rains focuses on management and technological solutions for small to mid-sized farmers and has research programs in agricultural sensor development, artificial intelligence, IoT in agriculture and intelligent and configurable robotic ground vehicles. His research integrates AI, robotics, sensors, and precision agriculture to improve crop management, pest detection, and on-farm decision-making. Dr. Rains also leads educational initiatives that promote agricultural technology adoption and workforce development. He has authored numerous publications and collaborates with state, national and international partners to enhance agricultural productivity and resilience.