

**NSF Engineering Research Center for Internet of Things
for Precision Agriculture (IoT4Ag)
Statement of Work – University of Florida**

- Develop methods for harvesting energy from the ambient environment and methods for convenient wireless recharging of autonomous drones/robots.
- Develop methods for harvesting of ambient energy to power sensors and communication nodes in agricultural field environments.
- Develop biosensors for monitoring of plants and soil.
- Develop multiple instance multiple resolution sensor fusion techniques that take into account spatial and registration uncertainty during analysis.
- Utilize sensor-based microclimate measurements to inform crop growth and disease prediction models, with the goal of developing yield predictions models for predicting crop condition and productivity at the farm and regional scales.
- Provide access to agricultural research sites, such as the North Florida Research & Education Center (NFREC).
- Conduct K-12 outreach, workforce development, community college partnership, diversity/inclusion, and international partnership activities.
- Provide comprehensive assessment of the educational, outreach, and diversity activities for all sites of the IoT4Ag ERC.
- Provide documentation and data to the University of Pennsylvania, as required by the ERC program.