CITRIS FRONTIERS IN TECHNOLOGY
Ag-Food-Tech Spring Seminar | 2020

Melba Crawford

MAR 6th
COB2 140
12PM-1PM

Multi-modality Remote Sensing Data Acquisition and Analysis for High Throughput Phenotyping in Agriculture

About the TALK: Sensing technologies are rapidly gaining popularity for field-based high throughput phenotyping applications. In addition to direct measurements of traditional phenotypes, these sensors potentially provide surrogate measurements for plant structural characteristics and chemistry. Opportunities and challenges associated with acquisition, processing, and analysis of high resolution RGB, VNIR hyperspectral data, and discrete return LiDAR data acquired from UAVs by Purdue University for row crop mapping and monitoring will be discussed. Results from multi-modality, multi-temporal predictive modeling of complex phenotypes such as biomass using data driven machine learning approaches will be presented. Opportunities and hurdles to generalization of predictive models across geographic areas and time periods will be discussed.

About the SPEAKER: Dr. Melba Crawford is the Nancy Uridil and Francis Bossu Professor of Civil Engineering at Purdue University. Her research interests focus on advanced methods for image analysis: dimensionality reduction, active learning, deep learning for classification and prediction, and applications of these methods to hyperspectral and LIDAR data for agriculture and natural resource mapping and monitoring. Crawford is a Fellow of the IEEE, Past President of the IEEE Geoscience and Remote Sensing Society, an IEEE GRSS Distinguished Lecturer, and the current Treasurer of the IEEE Technical Activities Board. She was on the NASA Earth System Science and Applications Advisory Committee, Nasa EO-1 Science Validation team, and advisory committee to the NASA SEDAC.

First come, first served for complimentary lunch; Arrive early

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