

Institution of Agricultural Engineers South East Midlands Branch



Student Presentations + branch AGM

Monday 5 February 2018 19.00

Maulden Church Hall, MK45 2AU

Toby Adeyemi. Predicting the water status of lettuce plants from the transpiration dynamics.

The plant transpiration rate has been shown to be a good indicator of plant water status. We have developed a dynamic model capable of inferring the water status of lettuce plants from real-time transpiration rate measurements. The model is able to achieve over 90% recall when predicting plant water stress.



John Beale. Towards field scale soil moisture measurement using SAR satellite and COSMOS UK data.

By combining SAR satellite data with ground measurements of soil moisture from cosmic ray probes, this project aims to create an accurate map of the soil moisture across the whole of the U.K. with unprecedented detail that would enable differences between adjacent fields to be seen.



Alex Ansell. Variable Rate Application of Plant Protection Products.

The current approach to spraying fungicide is to treat fields uniformly. This approach doesn't reflect variations within a field, the canopy structure or plant age. The aim of this project is to create an optimum dose rate for fungicide spraying on wheat crops based on these variations.



Rayhan Shaheb. Effect of ultra-flex inflation pressure and tillage practices on soil and yield.

Effects of ultra-flex tyre inflation pressure run at LGP and HGP modes with three tillage systems showed 4.31% corn yield increment in LGP (15.02 t ha^{-1}) than HGP (14.40 t ha^{-1}). Hand harvested grain yield of soybean was also higher (5.86% more) in LGP (5.96 t ha^{-1}) than HGP (5.63 t ha^{-1}).



Martin Wozencroft. Automating litter collection from roadside verges.

This talk describes an application of computer vision, that could form the basis of a vehicle to selectively remove litter from roadside verges and natural spaces.

Objects are automatically detected, tracked and targeted on a background of vegetation in real-time using video streamed from a camera in motion.

