

Institution of Agricultural Engineers South East Midlands Branch



Student Presentations + branch AGM

Monday 3 February 2020 19.00

Maulden Church Hall, MK45 2AU

Xavier Albano In-field tools to mitigate Nitrogen losses and increase nitrogen use efficiency

A pressing environmental problem in agriculture is the overuse of fertilisers, particularly nitrogenous ones, due partially to its low use efficiency. The in-field tools being used on the project will allow increase of precision and accuracy of fertiliser applications. This project is based at Rothamsted Research in a field trial designed to study the long-term effects of organic amendments and nitrogen fertiliser application on soils and crop yields.



Raymond Kirk. Robot Mounted Vision Systems for Soft Fruit In the Wild

Agriculture in 2020 faces many challenges, we need to produce more food in less time over a smaller area and with a smaller labour force. We present our research on using robot mounted cameras for soft fruit to intelligently detect, harvest, count and forecast yield in the wild.



Alex Ansell. Variable Rate Application of Plant Protection Products

The current approach to spraying plant protection products is a 'blanket prophylactic' and treating entire fields as uniform. The project aims to find the basis for variable rate applications which will aid farmers with the most appropriate spray decisions which could reduce spray, save money, and prevent resistance and leaching.



Maria Pimenta-Ocampo. Thermal processing to obtain an alternative P fertilizer from sewage sludge

This project is evaluating interactions in phosphorus availability of spring wheat from sewage sludge and its thermally treated derivatives, when added as soil amendment. Two pyrochars were obtained through pyrolysis at 400 °C-1h and 300 °C-1h and two hydrochars through Hydrothermal Carbonization at 180 °C-4h and 240 °C-4h. All samples were analysed for physico-chemical changes.

