

Institution of Agricultural Engineers

South East Midlands Branch

Notice of Branch AGM to be held
19.00 Monday 03 February 2020
Maulden Church Hall, Church Road MK45 2AU



AGENDA

1. Apologies for absence
2. Minutes of the AGM held on 04 February 2019
3. Matters arising
4. Chairman's report
5. Election of Officers for 2020/21
6. Message from the Institution President
7. AOB
8. Date of next meeting. 02 February 2021

Student Research Presentations Competition (before AGM)

Xavier Albano – Cranfield University

Alex Ansell – Cranfield University

Raymond Kirk – Lincoln University

Maria Pimenta-Ocampo – Cranfield University

INSTITUTION OF AGRICULTURAL ENGINEERS
South-East Midlands Branch

Minutes of Annual General Meeting

Monday 04 February 2019
at 7.00 pm in Maulden Church Hall

1. Apologies

no apologies.

2. Minutes of the AGM held on 05 February 2018

The minutes of the AGM were accepted as a true record. (proposer:J Hunter, seconder:G Spoor)

3. Matters arising

None

4. Chairman's Report 2018/19

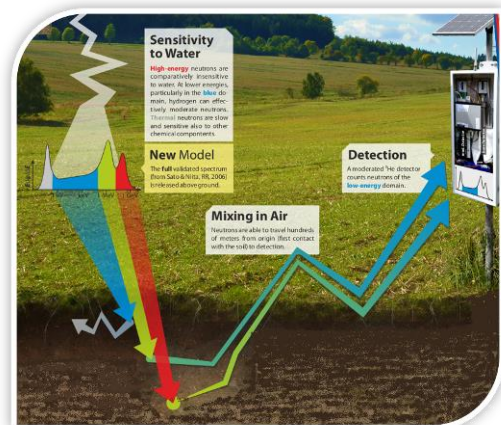
Before you read this, I have to confess to a bad case of plagiarism! Alan Plom recently drafted an article for Landwards and very eloquently and comprehensively covered many of the things that would naturally go into this report. So, many thanks Alan for providing me with a liberal spread of your words in this report! I think it is also appropriate at this point to thank the Branch committee for yet another year of unstinting engagement in putting together the programme that I report on below. Our committee meetings are always a pleasure to chair, as both much work and good humour are involved. My thanks also to our audiences, whose size has varied in the past 12 months from 12 to 30, with an average of 18.

As usual, the Branch year started with our AGM in February, which for many years has been based around our annual competition for 4 or 5 students, who present a brief (15 min) summary of their research. Originally only involving local students (from Silsoe/Cranfield) it has been opened up to Harper Adams University (HAU) and now other Universities too. For example, **Martin Wozencroft** from the Royal Agricultural University (RAU) spoke about developing a sensor and mechanism for an autonomous litter picker for dangerous highways. This extends computer vision technology developed for automatic weeding into another sector. Although he lost out on the winner's prize from us, we were pleased to hear that he received the Douglas Bomford Trust Award at RAU for his MSc thesis.

This year's winner **John Beale** (a researcher at Cranfield's School of Water, Energy and Environment, and currently Chair of the West Midlands Branch of the Institute of Physics) gave a presentation on field-scale measurement of soil moisture, using SAR satellite data and 'cosmic ray probes', which will enable an accurate map of the UK to be created, with unprecedented detail, even to the extent of recognising differences between adjacent fields.

Cranfield was also represented by **Alex Ansell**, who is studying variable rate application of plant protection products, taking account of the variations in the crop canopy or age of plants caused by differences in cultivation and seed placement. We also had two entrants from HAU: **Toby Adeyemi** was working on predicting water status (and stress) of plants using transpiration dynamics. Sadly **Rayhan Shaheb** was not able to be with us due to illness, but he was going to speak about the effects of the low soil pressures afforded by ultra-flex tyres on tillage practices and on soil and crop yields.

While judging of the presentations took place, we were rewarded in receiving an update on IAgRE activities from Professor Jane Rickson, president elect. Principal amongst these were a new Memorandum and Articles of Association and the omnipresent GDPR that plagued all our lives in 2018! The annual conference on "Decarbonising UK Agriculture" held at Rothamsted, was a great success and as in the past, the IAgRE was able to "punch above its weight" when it came to influencing the engineering agenda nationally. Also of note, is the Institution's work to support agricultural engineering in Sub-Saharan Africa, an area under constant threat of desertification. Retaining existing and recruiting new members became a greater challenge in 2018 and it falls on all our shoulders to promote the IAgRE at



every opportunity. It has produced some excellent publications (“Horizons” – celebration of 80 years of the IAgE) and recruitment literature that we should all be proud of, not to mention the ever-increasing value of Landwards.

In terms of our technical programme, this continued into the spring with a talk on Pea Harvester Technology by Robert Plant of PMC Harvesters Ltd. Starting out as FMC in 1970, the company is now owned by the Ploeger Oxbo Group whose aim is to be the world’s number one for niche-market harvesters. In the UK they undertake product design and assembly as well as some manufacturing and service support worldwide for their “Detasseler” and green bean and pea harvesters. Worldwide, their harvesters cater for crops as diverse as potatoes, coffee and grapes.



This talk was followed in April by one on Electricides by Mike Diprose, who introduced the commercialisation of electric weed control. At present this is largely used in the amenity sector but also in large gardens, such as those at English Heritage’s Audley End House.

Like many others, we benefitted from the glorious summer weather during our farm visits in May. Starting with an onion producer who is using a controlled traffic farming system to lower production costs while enhancing soil health, we then moved on to a more traditional but no-till farm. Crops here were looking good and a vivid green compared with a month or two later! We then enjoyed a meal together at The Raven in Hexton. Altogether a really enjoyable afternoon and evening.



Our summer break was followed by “Kubota’s Vision”, a fascinating insight into how a relatively small but global company, through customer focus, has set its sights on competing with the world leaders in tractor production. Keith Miller and Mike Bywater showed the passion needed to make this a reality.

Moving to all things “below ground”, Mike Slater of Frontier Agriculture concentrated on the management of soils to ensure their vitality in realising the genetic potential of new crop varieties. Their “Soil Report” covers a range of practical assessments of soil health from VESS scoring to other physical as well as chemical and biological indicators. Their output is a “Soil Vitality Index” based on a combination of these parameters with the aim of assisting farmers to achieve a vibrant soil that sustains high crop yields.

Deep Mukerjee of Bosch Rexroth spoke to the subject of Smart Machines and how ECUs, data connectivity and clever software are all helping to increase the safety, efficiency, performance and reliability of their wide range of agricultural machines, including a fully electronic hydrostatic drive system.

Our final meeting of the calendar year was at Cranfield University where we were treated to an exposé on “Advanced Vehicle Technologies in Agricultural Engineering” by James Brighton. The breadth of and investment in their work is staggering; with a test track for fully automated vehicles and a wide range of test equipment for tyres, transmissions,

soil engaging equipment and development of robust models to reduce the cost of design improvements. One topic that sparked my interest particularly was the prediction that future aircraft may not have landing gear in order that they can meet future emissions regulations. This gear, which is used only for a fraction of total journey times, is just a dead weight and severely limits the range and fuel efficiency of most aircraft. How reliable would land-based robotic undercarriages be I wonder?!



All in all, a rewarding year with an extremely diverse range of subjects that all could enjoy. My thanks as always to the people who made it happen and equally, to those who turned up to enjoy the fruits of their labours.

Tim Chamen
January 2019

The meeting accepted the report. (proposer:P Redman, seconder:G Spoor)

5. Treasurers Report.

Due to problems at HQ, the 2018 accounts had not been produced in time for the meeting. The meeting agreed to defer acceptance of the accounts, when they become available, to the committee. (proposer: A Plom, seconder: C Butler-Ellis)

6. Election of Officers for 2017/2018

Chairman: W C T Chamen
Vice Chairman: J Hunter
Secretary/Treasurer: J V Stafford
Ordinary Members: R Jones, A Plom, M Redman, J Rickson, R Simmons, M Stephenson, D Tinker

The committee proposed to invite Alex Ansell (who has already agreed) to join the committee. (proposer: D Tinker, seconder: C Butler-Ellis)

The meeting expressed gratitude for all the work that our chairman, Tim Chamen, puts in running the branch and also to our secretary, John Stafford.

7. Message from Institution President– presented by J Rickson.

8. Any Other Business

None

9. Date of next Annual General Meeting

03 February 2020

John Stafford

Branch Secretary & Treasurer
08 February 2018