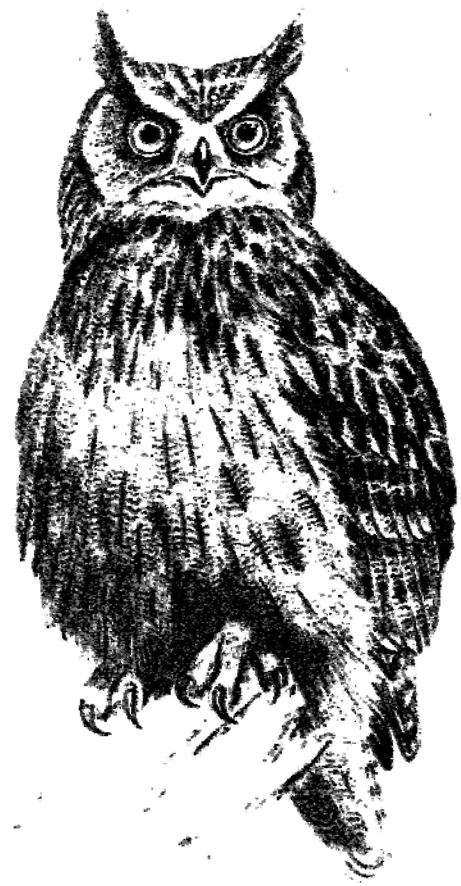


ALAM

Newsletter

Spring 2009



**The Association of
Lecturers in Agricultural Machinery**

www.alam.org.uk

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ALAM Newsletter Spring 2009

2008 Conference

David James organised our conference at Coleg Meirion Dwyfor, in North Wales. I think that those who were there will agree it was up to the usual high standards of ALAM conferences, with old and new friends, old and new technology, and staff development as only ALAM can do.

There's one of the reports from this conference in this newsletter.

2009 Conference

The 2009 ALAM Annual Conference will be held at University of Cumbria – Newton Rigg Campus 13th – 16th July 2009, and is being put together by Jonty Rostron.

The programme will include the usual range of updates to existing subjects, as well as something new.

We have kept the cost to the same level as last year, and to book a place contact Graham Higginson at Reaseheath College.

Important Note - We need bookings by end of June as some of the venues/hosts need a list of attendees 2 weeks before the visit.

Update Day - ISObus - February 2009

Kverneland hosted a day for ALAM members to get find out about ISObus systems – read Graham's report to get the full story.

Parts Offer

John Gough has a range of warranty return items sourced from JCB, which are available for colleges to use for teaching.

For full info about what is available, contact John by email at:

gough.j@btinternet.com - note this is a new email address

Phone - **01630 685 942** - evenings 7 to 10pm, please.

ALAM Committee 2008-09

Updates are highlighted in **bold** text.

Position	Name	Work			Mobile	Home	
		Place	Tel	Email		Tel	Email
Chairman	David James	Coleg Meirion Dwyfor	01286 832507	d.james@meirion-dwyfor.ac.uk	01286 880534		
Secretary	Graham Higginson	Reaseheath College	01270 613230	grahamh@reaseheath.ac.uk	01948 667982	graham.higginson@ntlworld.com	
Treasurer	David Heminsley	JCB Training	01889 594700	david.heminsley@jcb.com	01889 566882		
Conference Organiser 2009	Jonty Rostron	Appleby Heritage Centre	017683 53350		017683 52682	Jontyrostron@yahoo.co.uk	
Conference Organiser 2010	Gwynfor Williams						
Committee	Nigel Macpherson	Sparsholt College	01962 797217	nmacpherson@sparsholt.ac.uk	01980 862102		
	John Gough	Walford College	01939 262100 ext 2158	j.gough@wnsc.ac.uk	01630 685942	gough.j@btinternet.com	
	Neil Jewell	Reaseheath College	01270 613239	neilj@reaseheath.co.uk	01270 652554	neil.jewell@tiscali.co.uk	
	Tony Houghton						



2009 Annual Conference
University of Cumbria – Newton Rigg
13th – 16th July 2009

The 2009 ALAM Annual Conference will be held at University of Cumbria – Newton Rigg Campus 13th – 16th July 2009 with a range of visits and discussions/lectures arranged. Further details of the visits and discussions are listed below. Also note that the 49th Annual General Meeting will be held in the evening of 15th July 2009.

The programme will include, with others being arranged too:

- The Engineering Specialist Diploma: led by Arthur Boulton.
- The use of land-based machinery in the extraction of gypsum.
- BAE Systems, Barrow – welding technologies for joining specialist alloy steels.
- Combined Heat and Power (CHP) plant visit at Sellafield
- Hydro Turbines – Gilbert Gilkes and Gordon, Kendal and Coniston Hydro-power Station
- Production of bio-diesel – University of Cumbria – Newton Rigg Campus
- Appreciation of technologies in the transportation of quarried materials
- Miscanthus biomass farming and gasification plant.
- ALAM 49th Annual General Meeting

The cost will be £210 for members, £230 for non-members. Please complete the booking form below and return to Graham Higginson, Reaseheath College, Nantwich, CW5 6DF; alternatively, email your details to grahamh@reaseheath.ac.uk to reserve your place at what should be an exciting ALAM Conference for all.

Name	Email
Address	Telephone
	Mobile
	Delete as applicable: <ul style="list-style-type: none">• Invoice• Payment enclosed• Will pay at event

We need bookings by end of June as some of the venues/hosts need a list of attendees 2 weeks before the visit

Please note, attendees will be required to bring safety boots, overalls, hi-viz, safety specs/goggles as well as photo id (passport or driver's licence)

ALAM CONFERENCE 2008

Visit To Hill Farm

16th July 2008

On a wet afternoon we visited the farm of Wyn Jones, who is sheep farming on a 1000 acres with 600 sheep. However this is not his main business as for many years he has been contracting with the main work being improving hill pastures. This he does by ploughing and re-seeding. They use a MF 365 4WD Tractor fitted with dual wheels and three furrow plough which they back up the hill, drop the plough in and drive down the hill. To work the ground down they used a very Welsh method - they just turned the sheep out and put the dogs on them to move them around until the ground is worked down and he then reseeds it using a Vicon Vari-spreader.

However we were not there to see this but to see them topping the hillside with the same MF tractor. When we arrived the rain had just stopped and at first they said that it was too wet but it dried up a bit while we were in the barn chatting so they said they would have a go! Now ask a group of ALAM members to estimate the angle of the hill and you get many different opinions but I think it was nearer to 60° than 45° but some will disagree. The farmer's son showed us how to do the topping.



To my surprise he did not drive up and down the hill but across it, did not turn at the end but reversed back across the hill [using independent brakes as the steering hardly worked]. We all stood and watched as he topped off a good crop of best Welsh thistles but with each pass the hill was getting steeper to such an extent that the tractor could not back up across the hill in a straight line but at an angle of 45°. [I will put a short video on the web site for you to see.] For someone from the Hampshire Down lands I was pretty impressed but I would not wish to show our students the skill!

As we were about to leave the farm to go to the next visit Gwynfor discovered that they had on the farm a water turbine. This was first put in 1947 with a 6 to 7 kVA generator although the turbine was upgraded in 1955 to 20 kVA. The turbine was housed in a small tin shed and it produces about 15kVA being fed from a spring 300 ft above the farm down a 6 inch asbestos pipe. It was not working at the time as they had a leak (sorry, couldn't resist it) in the pipe but Wyn did open the gate valve so we could see it running. The biggest problem with the system were frogs blocking the pipe but the turbine evidently chopped them up quite well. It could provide all the power that the farm required and even heat the house with under floor electric cable - now that's what I call self sufficient and very green!

Nigel Macpherson
Sparsholt College

ALAM ONE-DAY TECHNICAL UPDATE

ISObus Systems

An ALAM PlugFest, 18th February 2009.

ISObus Technology, Kverneland Group, St Helens,
Tim Baker, Vicon Technical Manager
Cliff Buck, Product Manager Crop Care, Vicon UK Limited

After many had braved the chaos on the M6 motorway and the inevitable traffic jams and accidents to get to the M62 and then onto St Helens, the assembled members received an overview of the development of the Kverneland business showing the strategic buyouts of many well known machinery brands, of which Vicon is one of the many, along with Accord and Taarup amongst others which are well known on these fair isles.

What is ISObus?

ISObus can be likened to Microsoft Windows® for tractors & machinery. It allows for an implement control system to be displayed on the tractor terminal without the need for another control box.

The principle aims of ISObus are to have manufacturer spanning interoperability between implement and tractor and allow the use of a single input/output terminal for applications.

ISO 11783 is based on SAE J1939 standard which was developed initially for use in truck and bus applications. ISO 11783 describes CAN-based communications based on CAN2.0B protocol for the agricultural sector.

Why do we need it?

From this...



to this...



(yes, it is real!!)

How does it work??

An implement attached to the ISObus socket on the tractor utilises the tractor CANbus and shares information. Large amounts of data are sent on the CANbus which all ECUs on the system see, though only read the ones relevant to their operation, thus greatly simplifying wiring. For example, speed dependant machines such as a fertiliser spreader read the tractors forward speed from the CANbus and alter spread rate accordingly without the operator knowing!!!!



ISObus Plug

The plug is also the main connection for electricity to implements to activate solenoids and actuators. Big square balers can draw in the region of 30Amps!!

ISObus development.

VDMA, the German Agricultural Machinery Association formed an ISObus group to co-ordinate European developments. Meanwhile the Americans developed the North American ISObus Implementation Task Force (NAIITF). These groups have held many independent tests – these are known as PlugFests.



ALAM PlugFest, February 2009

Not Everyone Plays Ball!!

Unfortunately, not all the main players in agricultural implements wanted to join the ISObus, they wanted to have their own mode of transport – mmmm, VHS or Betamax? A 'Group of Six' formed from the Fatherland who were opposed to the ISObus, not naming any names, (1) make sprayers, spreaders and paint their metal orange and green (2) make root crop equipment and paint orange (3) make cultivation equipment and seeders painted blue (4) make allsorts of kit and have recently acquired the Viccon baler factory (5) are part of (4) and make spreaders; (6) make grassland gear and paint light green and cream whose parent company make artic' trailers (you can work them out from here, you know you can).

In summary, the benefits of ISOBUS – ISO 11783 – are:

- ☺ ISOBUS standardizes hardware (plugs and cables) and software
- ☺ ISOBUS generates universal tractors and terminals
- ☺ ISOBUS allows machinery and implements to be used, combined and coordinated beyond the level of individual manufacturers, such that optimal function is guaranteed
- ☺ ISOBUS automates machinery- and implement settings for different operations and thus combines the tractor, mounted implements and the terminal into a system with the qualities of a self-propelled machine
- ☺ ISOBUS extends the possibilities of precision farming through 'more intelligent' functions and GPS data integration
- ☺ ISOBUS simplifies and standardizes operator prompting on the terminal for all jobs
- ☺ ISOBUS can also support the control of the lighting systems and allows an additional plug to be dispensed with
- ☺ ISOBUS makes double information collection and storage unnecessary

For those of you using cordless (manual) spreaders, calibration details can be found at www.viconspreedingcharts.com

Graham Higginson IEng MIAgrE MIMI

Reaseheath College



ASSOCIATION OF LECTURERS IN AGRICULTURAL MACHINERY

Membership Application Form

Title	Initials	Forename	Surname
Home Address		College Name	
		Address	
Postcode		Postcode	
Phone		Email	
My connection with education in agricultural/horticultural engineering is:			
Signed		Date	
Proposer (Member of ALAM)			
If you don't know any members, just return the form and we'll arrange contact with one in your area.			

HOW TO PAY- The current rate is £10 per annum, payable on April 1st each year.

By cheque: Cheques should be crossed and made payable to "The Association of Lecturers in Agricultural Machinery", and sent with this form to the treasurer.	
By standing order: It will help us provide an efficient service to members if you pay subscriptions by Standing Order, by completing the following, and returning the whole form to the treasurer.	
Bank Name	Name of Account
Branch	Account No.
Address	Sort Code
	Payment Reference
	Please write your Initial and Surname as a Payment Reference in the space above, to ensure ALAM can clearly identify your payments.
Postcode	
Please pay to Lloyds Bank, 12 Lendal, York, YO1 2AF, (Sort Code 30-99-99) in favour of The Association of Lecturers in Agricultural Machinery (Account Number 1373714), the sum of £10 immediately, and then annually on the first of April each year, until cancellation by me of this standing order, debiting the account specified above.	
This order cancels and replaces all previous orders in favour of The Association of Lecturers in Agricultural Machinery.	
Signed	Date
Standing Orders are for a fixed amount, which can only be altered by you. It is not a Direct Debit, which allows the payee to vary the amount drawn.	

Return completed forms to David Heminsley, ALAM Treasurer,
The Old Byre, Lower Street, Doveridge, Ashbourne, DE6 5NS.

For use by the treasurer			
Details recorded	Payment received	Bank Order processed	Member number

Form revised June 2009