News from EurAgEng

Summer 2017

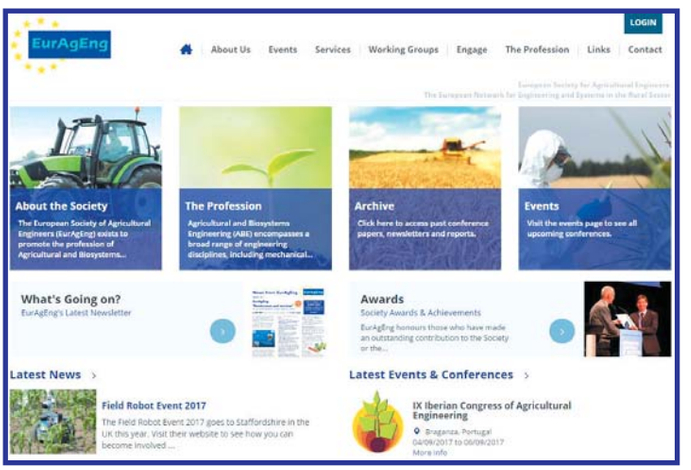
News from the Secretariat

Updated website and database go live

The revised website is now 'live' with much the same information as before but in an easier to see format and is mobile and tablet friendly. It is, as you would expect, also more secure than previously and the database of member's details is fully integrated making changes much easier. However to improve security you will be asked to choose your own password, after you have logged in with your 'old' password (we can still help you to remember that 'old' one - send an email to secgen@eurageng.eu). If you forget your 'new' password there is a '*Reset Password*' link. Your username continues the same and we can still let you know what that is.

The login enables *1)* you to update contact details which, for instance, are used by the Secretariat to send Email Updates and this printed Newsletter and *2)* it allows you to look up contact details for an old colleague, a potential collaborator or an expert who is a member.

Another improvement 'behind the scenes' is that we will get more information about how the website is used so that we can focus on the more popular aspects. We know that '*Events*' is popular now so please if you are involved in organising an event let us know and we will add it to the *Events* page.



There are a few corrections and additions still to make. If you see something missing then let us know but we will be updating the National Society contacts, ENGAGE members and more over the next days and weeks and hopefully adding other features. Please keep us updated with news and views.

Hopefully you'll enjoy referring to it.

Executive Meeting

The Executive members meet once a year to discuss the organisation of the AgEng conferences, the EurAgEng budget and other matters. For many years these meetings are held at either the location of the next AgEng conference or at an important site in European agricultural engineering research or manufacture.

In March 2017 we met at the Lely factory, Netherlands, and heard about their innovations, led by an engineer with a background from outside of agriculture, and to understand, and see the assembly line for, the Astronaut robotic milker in one of the most energy efficient factories in Europe.

The Executive then moved on to Wageningen University to see the facilities and the organisation being planned for AgEng 2018. We are sure that you will find this an excellent location for this popular event and we look forward to seeing you there. Book the date now - 8-11 July 2018. We'll let you know as soon as abstracts are needed, registration is available and other important dates.

September 2018 sees the retirement of the current secretariat. Individuals or organisations can contact EurAgEng President, Claus Grøn Sørensen, to find out more about what the job involves or to discuss an interest in taking over. claus.soerensen@eng.au.dk

David Tinker
Secretary General

EurAgEng Executive members get up-to-speed on the inner workings of a Lely Astronaut milking robot

Ethical engineering

Could the automotive scandal happen at an agricultural engineering company?

The following is the opinion of the author and should not be taken as in any way forming policy of the IAgrE or EurAgEng.

Adapted from an paper by Malcolm Carr-West CEng FIAgrE and first published by IAgrE in *Landwards Spring 2016*. Malcolm received an IAgrE Douglas Bomford Paper Award in 2017 for the full paper which can be found at: *https://iagre.org/kcfinder/upload/files/documents/Ethical%20Engineering_Spring_2016_forweb%2018.pdf*

The recent, and ongoing news regarding the automotive diesel engine emissions must be of more than passing interest to agricultural engineers.

Most of us would consider that the diesel engine is the prime power unit for agricultural engineering. So, it should obviously concern us all, that at least one major manufacturer has done much to damage not only its own reputation but also the reputation of diesel engines. It may also have clouded the future judgement of many about the environmental impact of diesel engines.

Once we have overcome the initial surprise and concern we need to consider our own position. It would be too easy to feel that it has nothing to do with us, but for many people around the world, this scandal has reduced any respect they had for the profession of engineering. A number of people have mentioned to the author how their distrust of engineering in particular and science in general has been strengthened by this emissions scandal.

> Any system that we are responsible for, should operate in the interest of the pubic in the country in which the system is working

The exact nature of what happened is emerging and the story of what happened is being pieced together. It is clear that the software could detect that the car was operating under test conditions and adjust the engine setting so as to reduce NOx levels during the test.

It should go without saying that no one would approve of breaking the law or of technical fixes that cover up law breaking. How then should we react to this automotive scandal? If this had happened in an agricultural engineering company what should be our reaction? We can start by looking at the ethical standards we apply as engineers.

As professional engineers we commit ourselves, at least in most European countries, to following a code of ethics. In principle, this calls for us to be honest and truthful. For example the UK's National Society, the IAgrE asks its agricultural engineering members to sign up to the Institution's Code of Conduct (www.iagre.org/codcon) and many British engineers will be registered with the Engineering Council which requires them to obey the Engineering Council's Statement of Ethical Principles (www.engc.org.uk/professional-ethics.aspx) and surely there will be similar requirements all around Europe.

Clearly for many engineers such codes of practice should be considered as the minimum and that the interest of the public is always paramount. In effect, any work that we carry out as engineers should be in the interest of the public regardless of the country in which we are operating. Similarly, any system that we are responsible for, should operate in the interest of the public in the country in which the system is working. No doubt it could be argued that in some cases the law and public interest are not the same. However, it is difficult to see how flouting emissions regulations could be in the public interest. Certainly, misleading the public can not readily be seen as acting in the public interest.

Obviously, there is a requirement that as professional engineers we read and understand any relevant code of conduct and keep ourselves up to date with amendments. This should remove any excuse that we are not aware that a code had changed, although it is unlikely that any code would only recently have introduced the concept of acting in the public interest.

It is quite clear that anyone working on a 'cheat device' designed to ensure compliance only under test conditions failed to observe that it could not be in the public's interest. By allowing cars on to the road that did not meet emissions limits they were clearly not showing a concern about the health of those breathing in emissions. While the emissions from engines are clearly injurious to a person's health, as engineers we may not be sufficiently expert as to the acceptable limits. Acceptable levels have been authorised by law and codes of conduct will inevitably make it clear that we should work within this law. It is clear that the 'cheat device' clearly acts in such a way as to circumvent the law.

Codes of conduct are almost certain to require that as engineers we avoid bringing our profession into disrepute and there is very little argument that the 'cheat device' has bought engineering into disrepute. It would appear that if any engineer(s) were responsible for such a 'cheat device' and had agreed to a code of conduct, there would likely be a compelling argument for bringing a disciplinary action.

It is likely that any codes of conduct would have a clear process that would discipline anyone known to have been involved with designing and installing a 'cheat device' from the profession. However, before this can happen, someone needs to identify that they are doing this. It could be because of rigorous independent testing or, as is likely to be the case in some countries, there could be whistleblowing guidance which would enable someone perhaps to raise concern about a danger, risk, malpractice or wrongdoing which affects others.

Although each country, and the engineers working there are likely to have their own Code of Conduct and whistleblowing regulations and laws it should be noted that the

European Federation of National Engineering Associations (FEANI), which represents engineering across Europe and beyond, has reviewed codes of ethics for engineers across their membership. FEANI's Position Paper on Code of Conduct entitled '*Ethics and Conduct of Professional Engineers*', received approval by FEANI's General Assembly on 29 September 2006.
(http://www.feani.org/site/index.php?eID=tx_nawsecuredl&u=0&file=fileadmin/PDF_Documents/Position_papers/Position_Paper_Code_of_Conduct_Ethics_approved_GA_2006.pdf&t=1448481406&hash=2fdefa0d8b41cc7b93762f4811c552c6321d4267)

This concludes that:

The decisions and actions of engineers have a large impact on the environment and on society. The engineering profession thus has an obligation to ensure that it works in the public interest and with regard for health, safety and sustainability.

Further it goes on to say that all members of FEANI have codes of conduct which have much in common and which have the intent of implementing the ethical principle as given above.

So, we can conclude that both nationally and internationally there are clear codes of conduct which we are expected to follow. That this has not always done may be unfortunate, and might imply that we need to do more to enforce these codes, but we must remember that they are not voluntary, they are codes that we accept when we sign up to membership, and they should not be onerous to follow as effectively all they ask us to do is act as decent citizens of the world.

We need to be prepared tell anyone who will listen that as agricultural engineers in Europe we will almost certainly have a Code of Conduct that would not condone this type of activity.

Save the date!

AgEng 2018 Conference

From 8-12 JULY 2018 in Wageningen, The Netherlands

Welcome to the AgEng 2018 conference in Wageningen, The Netherlands - save the date!

From Sunday 8th to Thursday 12th of July 2018 agricultural engineers from Europe and around the world will be holding their Conference at the campus of Wageningen University and Research in the Netherlands. This event is organized by Wageningen University and Research in close cooperation with the Dutch Society of Agricultural Engineers (NVTL) and under the flag of the European Society of Agricultural Engineers (EurAgEng). The main objective of the conference is to create a platform for European researchers and engineers involved in agriculture to meet, discuss and exchange ideas, not just with themselves but also with those from industry, policy-making and non-governmental and societal organisations.

Young people are especially invited and attracted to the AgEng conferences. This bi-annual conference follows the 2016 conference in Aarhus, Denmark, and the conference in 2014 in Zurich, Switzerland and all the previous ones back to Cambridge in 1984. AgEng 2018 is part of the celebrations for the 100th Anniversary of Wageningen UR. A really auspicious year.

Orion Building at Wageningen University and Research campus, Netherlands

The conference will host over 400 attendees who are researchers and engineers from universities, research institutes, companies, and related agri-businesses, predominantly from European countries but also globally. Besides that, representatives from relevant industries and (EU) policy makers, societal and non-governmental organisations will be present. Finally, over 200 bachelor, master and PhD students from Wageningen University will not only help with the organisation and guide the attendees but they will be attending sessions at the conference.

Participants will present their latest results from research and technology development in agricultural and biosystems engineering. The focus of the conference is on production and post-harvest technology in food, feed and biomass production by plants, animals, and fish, and novel systems for algae, seaweed and insects.

WHAT WE OFFER

- **Orion at the Wageningen Campus: A one-location conference - sophisticated facilities**
- **Hotel accommodation in & around Wageningen**
- **Low cost accommodation for students**
- **Special conference rates**
- **Additional transportation during conference**
- **Interesting field trips, campus research labs & excursions around Wageningen.**
- **Enjoyable stay to help celebrate 100 years of Wageningen UR**

Abstract submission opens on 1st January 2018. More information, important dates and updates are available at www.ageng2018.com.

How drones must adapt to drive a data revolution for farming

Courtesy of Chris Hill at the *Eastern Daily Press*, UK

Technological developments are gathering pace in the world of drone imagery and data-driven farming - but there are regulatory hurdles to clear if this technology is to reach its full potential.

Aerial drones have the potential to propel the next data revolution in 'smart farming', according to a recent agri-tech workshop in East of England.

But regulators have challenged the industry to prove it can safely operate machinery autonomously, and over longer distances, if the technology is to take the next big leap forward.

Farmers, agronomists and technologists gathered at a Village Hall for the 'Smarter, Not Harder' event run by Agri-Tech East in partnership with the European funded network for smart farming **Smart AKIS** and involving EurAgEng as a project partner. They heard from companies using unmanned aerial vehicles (UAVs) to capture detailed multi-spectral images to identify crop diseases, carry out black-grass surveys, create 3D land models to assess drainage issues - and even count apples in orchards.

Data can be analysed and turned into application maps which can allow farmers to precisely spray chemicals from satellite-guided vehicles, making the most cost-effective and ecological use of expensive resources. But the drone firms outlined two limitations: flight time and regulations.

Electric drones, or UAVs, are often limited to just 20 minutes of air time before they must land and re-charge. But while new hydrogen fuel-cell powered drones are being developed, which could be airborne for as long as four hours, their ability to cover larger areas is being restricted by safety regulations requiring UAVs, in the UK at least, to be flown within 'line of sight' of the pilot, at a maximum distance of 500m.

Group discussion in full flow

Manufacturers are testing fail-safe measures and sensing technology to allow drones to automatically avoid potential hazards in the air - but the UK's Civil Aviation Authority (CAA) said strict safety criteria would be applied before any such equipment was authorised for use.

Elliot Corke, of Norwich-based aerial photography firm Hexcam, is also a founder of The Aerial Academy, which gives training to commercial drone pilots. "To make the best use of this technology, we have got to push those boundaries," he said. "We have to demonstrate a high level of safety to the CAA. If you are sat in an aircraft you can see what is going on ahead of you. But with a drone, beyond line of sight you have no idea, so we are looking at transponders and sensors. The technology is there or thereabouts. If the regulation could catch up, these technologies are imminent and necessary."

Local farmer Robert Dennis is chief executive of AgriVue, which uses drones to collect data to highlight crop health, weed and disease pressure, and areas of poor drainage in fields.

He said: "Our key driver is that we provide clear data that farmers can use. To bring the cost of this service down, the drones need to be up there longer and we have got to remove the person flying it - that's what makes it an inherently expensive business. In conjunction with (parent company) uVue we are working towards drones that can fly themselves."

Russ Delaney, a former military helicopter pilot who is AgriVue's head of technical operations, said the company soon expected to take delivery of an autonomous drone with a hydrogen fuel cell which could power it for as long as four hours - but its potential was currently limited by CAA regulations. "What we need to do is to satisfy the CAA that drones are safe to fly beyond a pilot's line of

sight," he said. "If the radio control fails the drone will come back, but that is not enough. So we are looking at three systems. We have got radio control, and 4G technology as well if the radio control fails, and if everything else fails we can send a signal via satellite to deploy a parachute. We are also working on 'sense and avoid' technology."

Simon Clifford, chief executive of uVue, told the meeting that the industry, working with the CAA and the International Air Transport Association (IATA), was working towards a goal set by the previous UK Government, of allowing the operation of autonomous industrial drones by 2020.

Other speakers at the event included Jim McDougall from Cambridge-based Outfield, which provides aerial imagery data for the agriculture industry. He said the firm had adapted technology, originally designed to count cancer cells in hospitals, so that it can now count blossoms on apple trees.

And Hummingbird Technologies, based in London, introduced its data analytics and artificial intelligence platform for the management of cereal crop health. Company founder Will Wells said the system could capture as many as 300 million data points in a single field, which can be analysed and converted into useable information before being sent to the farmer's smartphone.

REGULATOR'S RESPONSE

A spokesman, Jonathan Nicholson, for the UK's Civil Aviation Authority (CAA) said the onus was on the drone industry to prove it can safely operate unmanned craft autonomously, or beyond the line of sight of a pilot. "We don't restrict things for the sake of it," he said. "We put safety rules in place to protect people, property and other airspace users. These rules exist because there is no other option. If the technology becomes available and the drone industry can prove it can be relied on, with an equivalent level of safety, then absolutely we are prepared to look at it. The reason we don't allow drones beyond line of sight is because they cannot automatically sense and avoid everything else in the air.

"Part of the issue is that there are a lot of people looking at avoidance technology which relies on an electrical gadget in the drone talking to an electrical gadget in another aircraft. But there are a lot of things in the airspace that don't have electric systems, like paragliders and parachutists, so we have got to go beyond that."

DRONE SPRAYERS

Other presenters at the event included another local firm CropAngel, run by agronomist Matthew Kealey and arable farmer Chris Eglington - it is one of the first UK companies to explore the use of drones for crop spraying. But Mr Eglington said the firm needed to clear a regulatory hurdle before more progress could be made.

"At the moment, the CAA won't allow us to drop anything from a drone," he said. "We are working on it, but ultimately we are hoping that in the next two or three months we will at least get the permission to do some trials. If we do, we will be the first in the country to do it."

CAA spokesman Jonathan Nicholson said: "You are not allowed to drop anything from an aircraft in the UK. The rules are really to protect other people in and under the air-space, but we do give permissions and exemptions for some things that the basic rules don't allow. But they would need to demonstrate that they are meeting an equivalent level of safety, and show what they are doing to remove the risks."

This article follows a Smart AKIS Regional Innovation Workshop. The Chief Executive Officer of the UK's Institution of Agricultural Engineers (the UK National Society member of EurAgEng) said at the end of the event "There is another group of people who, although they don't know it, are also agricultural engineers - and those are the helicopter pilots that are now flying drones for agricultural uses!"

Seventy five people signed up for the event (although, as it was a nice day, a few were obviously working in the fields and couldn't attend). Apart from the five presentations mentioned above and one on Smart AKIS other talks were on precision agronomy and on a GPS RTK network started and run by farmers. Breakout groups then discussed the needs, incentives, barriers, research ideas and other topics related to smart farming and their views and ideas are being fed back into the Smart AKIS project team.

The companies that provided speakers and their web-addresses:

- **AgriVue**
  https://agrivue.co.uk
- **CropAngel**
  www.cropangel.com
- **HexCam**
  https://hexcam.co.uk
- **Hummingbird Technologies**
  https://hummingbirdtech.com
- **Outfield**
  www.outfield.xyz
- **RTK Farming**
  www.rtkfarming.co.uk
- **Omnia**
  www.hlhltd.co.uk/omnia.html

A second round of Smart AKIS Innovation Workshops will be happening this autumn around Europe. Dates and locations for these will be on the EurAgEng website in due course.

Words from the President

Dear colleagues,

It is an exciting time to be President of EurAgEng with many initiatives going on within the agricultural engineering community to meet the challenges of European agriculture and food production.

The main challenges for European agricultural research, forestry and food research by 2020 include:

- **improving production efficiency and coping with climate change, while ensuring sustainability and resilience,**
- **providing ecosystem services and public goods,**
- **empowering rural areas and supporting policies and rural innovation,**
- **fostering sustainable forestry,**
- **developing a sustainable and competitive agri-food industry,**
- **support development for bio-based products and processes (circular economy).**

Meeting these challenges will require producing more with less, embracing smarter farming technologies and sustainable food production systems, smart farming technologies, high-precision satellite positioning systems and a multitude of sensors which closely monitor and record farm operations, smart machines which help farmers optimise and increase crop yields while reducing the use of agricultural inputs (such as fertiliser, pesticides or irrigation water). Beyond that, Smart farming technologies will pave the way for autonomous systems (robots, self-awareness, supportive IT systems, etc.).

Current initiatives within this area include the H2020 Internet of Farms 2020 project involving 73 partners from industry and academia promoting the opportunities offered by ICT, network and data-oriented technologies and the SmartAKIS project.

Here I see EurAgEng as a key player in promoting the development and researching of advanced technologies for the future of agriculture. Talking with the biological experts and establishing a systems perspective is also an important task.

Agricultural engineering is unique in its pursuit of sustainable food production through the application of technology interlinking with a biological production system. This requires an interdisciplinary approach and a system of systems approach. As such, we also need to strengthen the awareness/visibility of the uniqueness of agricultural engineering to scientists, the public, to decision maker, to get young professionals involved, etc.

This awareness is growing but we need to reinforce it. Also, collaboration between regional societies is important - like connecting with ASABE and the global initiative.

Claus Grøn Sørensen

CLAAS to build a new test centre

Seven-figure investment at the site in Harsewinkel

CLAAS is significantly increasing its testing capacities for the development of new agricultural machinery by building a new centre at its site in Harsewinkel. By the time it's completed in autumn 2018, total investment in the new centre will be over 15 million euros.

"We will merge the test laboratories at our Harsewinkel site into the new test centre; it will also enable us to expand our capacities and lower the dependency of our testing cycles on the harvest schedules," says Oliver Westphal, head of validation at CLAAS. The test centre will be able to simulate a broad variety of climactic conditions encountered during harvests around the world. These simulations help the engineers to assess the performance capabilities and reliability of the machinery at an early stage of its development.

The new centre will be equipped to test components for combine harvesters, forage harvesters and tractors. "We exclusively test the functions and durability of the components in our machines. They are becoming increasingly complex while at the same time needing to satisfy an increasingly large raft of statutory requirements", explains Westphal. "We do not test the quality of harvest flow here; there are other test facilities responsible for that."

The new test centre will be absolutely state-of-the-art. "We will use 300 kilowatt electric drive units instead of diesel engines to test the transmission components", adds Ulrich Elfers, project manager in charge of construction. The new test centre will also satisfy modern standards of energy efficiency. For instance, a heat recovery process will be installed into the test systems, so that a conventional heating system will not be necessary in winter, while a water system with heat exchangers fitted to the underfloor radiators will provide cooling in summer.

The building will have total floor space of roughly 8,000 m², of which half will be used for assembly, the laboratories and the actual test facilities. Adjacent to these areas will be over 200 workstations for test engineers and developers, as well as additional facilities containing the technical supply systems.

45th International Symposium Actual Tasks on Agricultural Engineering

21st - 24th February 2017, Opatija, Croatia

The 45th Symposium was held 21st-24th February 2017 in Opatija, Republic of Croatia.

This series of conferences appears to be steadily growing and attracting researchers from all over Europe and elsewhere well away from the East of Europe.

In all 92 participants from 14 countries attended the Symposium and with six Topical Sessions it broadly covered the full scope of Agricultural Engineering. At the Opening Session prof. dr. Daniele De Wrachien, past President of the EurAgEng and former Member of the CIGR Executive Board, in his speech highlighted briefly the main historical steps of the symposium emphasizing its significant role as a networking event for scientists, engineers and dealers from south-east European countries, the Baltic States and elsewhere from Europe and globally.

There were papers from Philippines, a joint Japanese-Thai one and a particularly interesting one, where the authors caught my eye, featured joint Romanian and Icelandic authors. In general our new friends in Romania (SIMAR http://simar.info.ro), who joined EurAgEng recently, were well represented at this Symposium along with others from Lithuania, Estonia, Serbia, Croatia, Austria and from elsewhere around Europe. It is impressive just how many partnerships there are either for training students or for joint projects. Practically all the 70 peer-reviewed papers are in English. and the Proceedings are available as a pdf from the symposium's web site http://atae.agr.hr/proceedings.htm.

The principle Organiser, Agricultural Engineering Department, Faculty of Agriculture, University of Zagreb was supported by many other regional organisations and CIGR, EurAgEng, AAAE and ASABE endorse this increasingly popular Symposium.

Check out the information for the 46th Symposium, in 2018, at http://atae.agr.hr.

Downloadable electronic version of Proceedings of the 45th Symposium is available at the symposium's website http://atae.agr.hr/proceedings.htm starting on 30th of March 2017. Information regarding the 46th Symposium in the year 2018 will soon be available at the web site http://atae.agr.hr.

Dr.sc. Igor Kovacev, Convenor of the Symposium

Prof. Daniele De Wrachien, Past President of EurAgEng.

EVENTS

EURAGENG EVENTS

NOVEMBER 2017

10-11 Land.Technik AgEng 2017
Hannover, Germany
www.vdi-wissensforum.de/en/event/internationale-landtechnik

JULY 2018

8-11 AgEng 2018 Wageningen
Wageningen, The Netherlands
www.ageng2018.nl

NOVEMBER 2019

Land.Technik AgEng 2019
Hannover, Germany
www.vdi-wissensforum.de/

SPONSORED EVENTS

JUNE 2017

13-15 Ciosta 2017 XXXVII CIOSTA & CIGR Section V Conference
Palermo, Italy
http://www.ciosta2017.org/

14-16 Field Robot Event 2017
Harper Adams University, UK
www.harper-adams.ac.uk/events/event/fre

JULY 2017

5-8 AIIA Biosystems Engineering addressing the Human Challenges of the 21st Century
Bari, Italy
www.cicsud.it/Public/Congressi/File/3announ.pdf

SEPTEMBER 2017

4-6 IX Iberian Congress of Agricultural Engineering
Braganza, Portugal
http://esa.ipb.pt/agroeng2017/es/

OCTOBER 2017

20-21 3rd International Symposium on Agricultural Engineering 2017
Belgrade, Serbia
www.isae.agrif.bg.ac.rs

View all forthcoming events online, visit: **www.eurageng.eu/events**

NOVEMBER 2017

22-24 9th International Scientific Symposium "Farm Machinery and Processes Management in Sustainable Agriculture"
Lublin, Poland
http://kemiz.up.lublin.pl/

JANUARY 2018

24-26 ICORES 2018 7th International Conference on Operations Research and Enterprise
Funchal, Madeira
www.icores.org

OTHER EVENTS

JULY 2017

2-6 EFITA WCCA Congress 2017
Montpelier, France
www.efita2017.org/

16-20 11th European Conference on Precision Agriculture
Edinburgh, UK
https://ecpa.delegate-everything.co.uk/

SEPTEMBER 2017

18-20 13th Conference: Construction, Engineering and Environment in Livestock Farming 2017
Stuttgart, Germany
www.btu-tagung.de/de/

21-24 HAICTA 2017
Chania, Crete
http://2017.haicta.gr/

OCTOBER 2017

16-19 SYNERGY 2017
Gödöllo, Hungary
http://synergy2017.hu/
Submission of abstracts 25th July 2017

16-18 7th Asian-Australasian Conference on Precision Agriculture (7ACPA), the 1st Asian-Australasian Conference on Precision Pasture and Livestock Farming (1ACPLF), and Digital-Farmer 2017 (DF2017)
Hamilton, New Zealand
https://forumpoint2.eventsair.com/QuickEventWebsitePortal/7acpa2017/info/

OCTOBER 2017

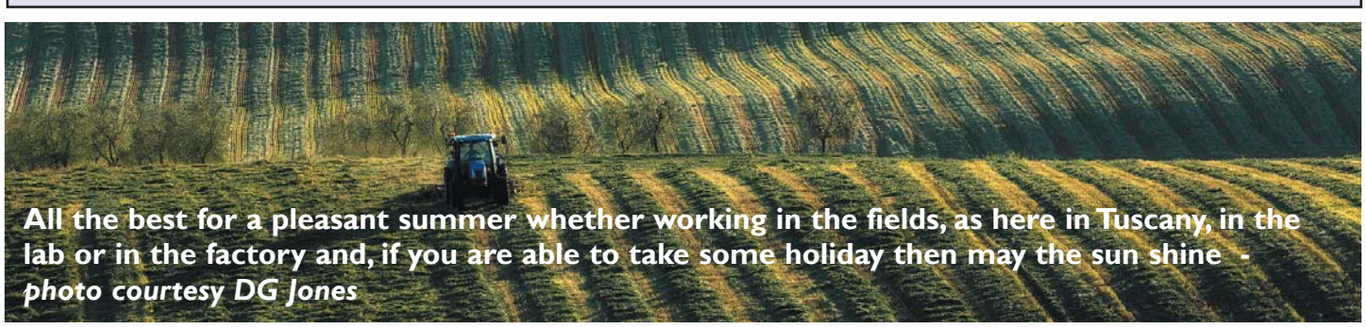
23-26 2017 International Symposium on Animal Environment and Welfare
Chongquing, China
http://isaew2017.csp.escience.cn/dct/page/1

NOVEMBER 2017

23-24 8th International Scientific Rural Development 2017
Kaunas, Lithuania
www.ruraldevelopment.lt/

APRIL 2018

22-25 XIX World Congress of CIGR
Kyrenia, Northern Cyprus
www.cigr2018.org/



All the best for a pleasant summer whether working in the fields, as here in Tuscany, in the lab or in the factory and, if you are able to take some holiday then may the sun shine - *photo courtesy DG Jones*

First AXEMA-EurAgEng Conference

'Intensive and environmentally friendly agriculture: an opportunity for innovation in machinery and systems'

On Saturday 25 February 2017 at Parc des Expositions, Villepinte, Paris, France

As an introduction to SIMA 2017 this year, AXEMA and EurAgEng combined forces to run this friendly event, with time for networking while enjoying French hospitality.

AXEMA is the French trade association for manufacturers of agricultural equipment, both French and international, from the various sectors of agricultural, plant and animal production, as well as producers of equipment for the maintenance of green spaces.

The aim was to encourage manufacturers and researchers to meet and hear about the latest developments, whether they were practical and commercially available or available as results from a research project. There were two parallel sessions and the many abstracts submitted were reviewed to select those that would best fit into the program either as oral or poster presentations.

The proceedings are available on the new EurAgEng website. Look for the news item on the front page and follow the link. The presentations and posters will be back on the EurAgEng/Services/Conference Papers Archive before too long; the presentations managed to slip into some other universe when the new website went 'live' but they will join the Program shortly.

Many thanks to our friends at AXEMA for such an excellent idea and organised event. Hopefully we will see many more of you there in 2019.

REMINDERS

The Field Robot Event: 13 to 16 June 2017, Harper Adams University, UK

This international competition is intended to promote the development of robotic systems for agriculture and is being organised by the Engineering Department. Competitors are required to build a robot that is capable of completing a series of tasks that are typical of the type of applications field robots may be used for. This year there are four main tasks; basic navigation, advanced navigation, field mapping and crop spraying.

Full details at www.harper-adams.ac.uk/events/fre linked from the EurAgEng Events page.

The 'International Conference on Agricultural Engineering' Land.Technik AgEng, 10-11 November in Hanover, Germany.

Experts meet in Hanover every 2 years to discuss current developments in agricultural technology. This year the focus is on innovative technologies, machines and processes.

With over 1,000 participants in 2015, the 'International Conference on Agricultural Engineering' Land.Technik AgEng is the most important event for the international community of agricultural engineers. The event provides the ideal mix of technically in-depth lectures and networking opportunities. Innovations in the areas of tractors, powertrains and harvesting technology as well as automation in agricultural machinery and the Precision Farming methods are at the heart of the conference this year. The conference is the kick-off for the AGRITECHNICA, the world's most important exhibition for agricultural machinery.

Main topics:

- Tractors
- Power trains, electrical drives and mobile hydraulics
- Agricultural information technologies, precision Farming, software engineering and data handling
- Automation, electronic components and sensors, locating, tracking and navigation
- Technologies of soil protection, tillage and sowing
- Harvesting technologies
  Sustainable energy for agricultural applications
- Industrial product development and market service

The presentations have been selected and presentations are being prepared so *sign up now* to learn about new technologies, processes and machinery in agricultural engineering and discuss them with other professionals. Secure your ticket to the 'International Conference on Agricultural Engineering' Land.Technik AgEng 2017. Follow the link on the EurAgEng Events page.

EurAgEng Newsletter,
June 2017
Published by
European Society of Agricultural Engineers
The Bullock Building,
University Way
Cranfield,
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