WORLD ASSOCIATION for ANIMAL PRODUCTION

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The World Animal Science News

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EDITORIAL

Challenges of animal production in a global world; how scientific societies can contribute to solutions

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As we look to the future of animal production, the outstanding challenge facing agriculture is feeding the worlds burgeoning population. The projected requirement to feed this population is for at least a 60% increase in food production, of which a substantial portion will be meat products. However, due to the publicity concerning the obesity epidemic, the general public has a difficult time envisioning a need for more food production. In addition, there are many conflicting views concerning animal agriculture. There is a vegan agenda that promotes a concept that animal based products are inherently unhealthy, cause environmental catastrophes, use too much water and are inherently cruel. Animal welfare groups provide a constant barrage of emotional pleas, that range from accusations of animal cruelty to providing propaganda to school age children. In addition, we often hear that agriculture was better in the good old days, before substantial numbers of farms became "industrial farms". Most of these positions are easily refuted with scientific research and good communication of modern animal agricultural practices. However communication and good science may be insufficient to change public perceptions and influence public policy.

There are hurdles of another character facing animal production. Some that are not easily addressed are cultural or religious belief systems. There is an impact of animal production on land and water use, climate change, ethical concerns, decreased arid land and others, that all must be addressed in a sustainable and responsible manner. In short, the issues that face animal production also provide new scientific challenges to animal scientists. Fundamentally, how do we provide more food in an ethical, humane, and environmentally sustainable manner?

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Editorial (continues)

How should we respond to these challenges? Scientific societies, with the assistance of animal scientists, and farmers are the best suited to take the forefront in facing the challenges between ultimate starvation and a healthy population. But, scientific societies face their own problems that impact solutions:

- Decreased Research Funding
- Consolidation of Animal Industries
- Poor Public Perception (of science and agriculture)
- Consolidation of Academic Departments
- Decreased number of students interested in science
- Applied versus Basic Research Debate
- Lack of consumer understanding and support
- Consumer driven VS science driven government policy

All societies have taken on some portions of these issues facing themselves and animal production. This presentation will feature the responses made by the American Society of Animal Science (ASAS). The ASAS decided to convene a strategic planning group in 2008 to try to address how to move forward in the environment that was facing animal agriculture, animal science education and research. The leadership of ASAS decided to face the future with a plan to operate strategically rather than deal with day-to-day operations issues of the society. This required a fundamental change in philosophy and required a certain amount of innovation and risk during an economic downturn. In the years since 2008, seven successive presidents and Boards of Directors of ASAS have worked with the ASAS staff to implement the elements of that plan. And most importantly, the plan was considered a living plan, one that could evolve as conditions changed. The key provisions (summarized for brevity) of the plan were:

- Increase influence in public policy, work for education and research funding for animal sciences,

explore new models to partner with industry, government, universities, commodity groups and scientific societies.

- Make known to the larger public, the value, knowledge and contributions of the animal sciences.
- Increase diversity and number of members by recruiting globally.
- Interest in current and future members by providing professional and leadership development opportunities, use new technologies to reach members.
- Invest in cutting edge communications technology to facilitate scientific information exchange, dissemination, and networking for ASAS members.
- Partner and cooperate with other scientific societies, government agencies, to sponsor educational forums, symposia, and activities to address issues in the animal sciences.
- ASAS, its sections and foundation work to insure the Society continues to be vital, healthy, and financially sound.

While these are broad statements befitting a strategic plan, how was this plan implemented and has it achieved it's goals?

Public Policy. ASAS created a sabbatical program for ASAS scientists to work at United States of America (US) government agencies. This provided ASAS an opportunity to send speakers to the US Environmental Protection Agency, which was considering new legislation to manage animal waste in the US. In addition, ASAS provides a yearly visit of representatives from ASAS leadership to visit US Government agencies (such as FDA, EPA and USDA and others). ASAS developed Grand Challenges for animal science research and distributed the document to government, university and animal industries. This document is a guideline for developing future research priorities.

ASAS, in conjunction with the Canadian Association of Animal Science, the European Federation of Animal Science, and the American Meat Science

Association, jointly developed and publish an open access magazine of global animal agriculture, Animal Frontiers. Moreover, ASAS hosts a Snack and Fact in Washington DC to coincide with each issue of Animal Frontiers with a goal to educate those in government about issues in global animal agriculture. This event features scientists speaking on topics associated with the latest issue of Animal Frontiers. Each attendee is provided a copy of the magazine (and the magazine is distributed to government, University and industry offices).

Communications. One of the issues animal production must begin to deal with is the misconceptions and distortions surrounding how society views animal agriculture. With that in mind and the educational basis for the society, ASAS initiated a Junior Animal Scientist program. This membership in the Jr Animal Scientist program is oriented to schoolchildren in the first 4-5 grades as either an individual membership or to classrooms. There is a magazine for each student that is published in 4 issues each year and teaches about animals and agriculture that is both fun as well as educational. In addition, the AnimalSmart website has lesson plans for teaching animal agriculture in the public school system, including using Animal Frontiers and the Journal of Animal Science in teaching.

AnimalSmart.org was launched in 2012 as a consumer website to provide information on animal production to the general public and to provide a "Kids Zone" to augment the Junior Animal Scientist program. The site provides up to date scientific information on a host of topics from antibiotic or hormone use in cattle to food safety issues, all oriented to the consumer.

There seems to be a never-ending barrage of news stories that reinforce negative perceptions of modern animal agriculture. One approach to the problem was the development of a system to provide positive inputs to the media about animal agriculture. Journal of Animal Science Interpretive Summaries (provided for industry and others) are prepared and placed on the ASAS website. These interpretive summaries are released to media outlets through Eureka Alerts. In addition to agriculture media, this system places animal science research into the 'public eye' in non-agriculture public media. More directly, the ASAS Board of Directors authorized a rapid Board response to developing news events. Examples of Board responses were the Chipotle Superbowl advertisement that attacked family farms, a response to a Peta film indicating shearing was an inhumane process, most recently a response concerning the stories that the WHO had placed processed meat on the carcinogen list, as well as others.

The Society also embraced social media to attract and communicate with students. Information and connections are provided through Facebook, Twitter and LinkedIn for our members and interested persons.

International Programs. ASAS and a number of sister societies have realized that we all face the same issues, whether it be climate change, trade regulations or changing perceptions about animal agriculture. The future development of the animal sciences as well as success at feeding the world demands that we all work together. To that end, there are a number of interactions between Animal Science Societies. For example, EAAP and ASAS have long standing speaker exchanges that have served as a catalyst to enhance global research and education in animal agriculture. Both organizations have engaged in developing that model with our sister societies worldwide to enhance interactions at scientific meetings. It's potential to improve all of our efforts at feeding the world cannot be over emphasized.

Individual Scientists. Scientific societies cannot work alone. There is a need for individual scientists to become more engaged in education at all ages. For example, individual scientists can go into school systems and talk to classes about animal production, the importance of water resources, about animal disease or physiology or nutrition. Scientists can help educate the public by writing blogs and newspaper

articles. Animal scientists should not wait for the news to develop, but should provide the positive news about animal science. In addition, as educators we should work to develop "our story". The only way to educate the public is to discuss the science, it's impacts and needs in our day-to-day interactions. Consider turning your work into a simple anecdote. People are more likely to remember a story than a list of facts. Above all else, speak passionately. At its core, the goal of animal science and animal agriculture is to provide safe, efficient, nutrient source to feed the world. If we tell our story and speak passionately on a daily basis, our message will begin to take hold. These are only examples, but think about your personal skills and see where you can make a difference.

It is time to move beyond talking about problems facing animal agriculture and engage in solving the issues before us. There are solutions to the challenges facing global animal agriculture. As animal scientists, acting individually and through our respective scientific societies, we can make a difference in feeding the world.

From our members

American Dairy Science Association

The American Dairy Science **Association**® announced new sections for its scholarly publication, Journal of Dairy Science®, since its December issue. The changes included moving from four sections to six subsections in dairy foods and six subsections in dairy production to further distinguish content. With the change, the journal Table of Contents will feature subsections for the first time. Dairy Foods, the section that receives the most submissions, will now be subdivided into six, more specific content areas: Processing and Engineering; Chemistry and Materials Science; Microbiology and Safety; Bioactivity and Human Health; Sensory Analysis; and Resources and Environment. The new dairy production sections

in Journal of Dairy Science include Physiology; Management and Economics; Health, Behavior, and Well-being; Animal Nutrition; Breeding, Genetics, and Genomics; and Resources and Environment. Our Industry Today will be renamed Dairy Industry Today, but its scope will remain the same. Despite the changes to the sections of Journal of Dairy Science, the submission process for authors remains familiar. The journal editorial staff has worked hard to create a very specific list of topics expected to be published in each section, which is accessible through the usual submission procedure through ScholarOne.

American Society of Animal Science

The American Society of Animal Science, together with ADSA®, the Western Section of the American Society of Animal Science and CSAS, will hold the 2016 Joint Annual Meeting (JAM) in Salt Lake City, Utah, July 19-23. For more information, please visit: http://www.jtmtg.org/JAM/2016/ This the final "JAM" meeting and the organizers have three main goals for IAM 2016: I) to present high quality, relevant science that links animal science and animal agriculture, 2) to return to our roots, by having a number of the social events that will enhance networking and add a family feel to the meeting and 3) to set the societies up to have excellent individual 2017 meetings. In connection with the JAM there will be the International Society of Animal Genetics (ISAG) conference that will be held just after the JAM in Salt Lake City from July 23rd to 27th.

Association Latinoamericana de Produccion Animal

Members of the Latin American association for animal science published a very interesting book about animal breeding in Central and South America. R. Nunez Dominguez, R. Ramirez Valverde, S. Fernandez Rivera, O. Araujo Febres, M. Garcia

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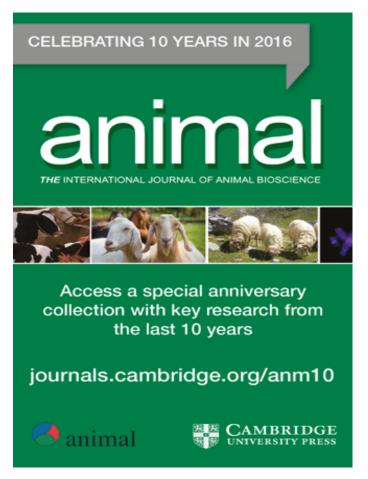
Winder and T. E. Diaz Munoz published the book "La ganaderìa en al Amèrica Latina y el Caribe". More information can be found on at: http://www.alpa.org.ve/alpa/PDFS/files/Folleto_Libro_ALPA%20 2015.pdf

Australian Society of Animal Production

The Australian Society of Animal Production and the New Zealand Society of Animal Production have joined together to bring Animal Production 2016 to Adelaide, South Australia. The conference will be held on July 4th-7th. These societies are dedicated to bringing together scientists, producers, specialists, educators, consultants, extension and companies with an interest in improving the welfare, productive efficiency, product quality and profitability of animal industries. Their focus is to bring together a wide range of disciplines to provide 'whole-of-chain' approaches to problems faced by all production animal species. The theme for the 2016 joint conference will focus on animal welfare, productivity and profitability of our livestock industries. Dr Temple Grandin, known for her award-winning work on the design of handling facilities, has accepted our invitation to provide you with the principles of her work. For more information please visit: www.asap.asn.au/ conference/

EAAP European Federation of Animal Science

EAAP delighted to announce that animal will be celebrating its 10th anniversary in July 2016. The journal published by the Animal Consortium (EAAP, BSAS and INRA) is ranked 7/55 (JCR, Thomson Reuters) and continues to publish leading research across the spectrum of animal science.



The 67th the EAAP annual meeting will be held in Belfast (UK) from August 29th to September 2nd.

This is Europe's largest animal science conference and will feature over 1000 presentations. The conference is a unique opportunity for industry and scientists to meet, exchange experiences and work together to implement new science for maximum impact. The theme is Sustainable Food Production Livestock's Key role and the content will cover the whole range of animal science including animal genetics, animal nutrition, animal management and health and animal physiology and also cattle, sheep and goat, pig and horse production and livestock farming systems. The Plenary Session of the 2016 annual meeting will have title "Sustainable Food Production to 2050: Key Role of Livestock". Four major experts of this important topic will give lectures for this event in Belfast. It will also feature fish and food and there will be sessions featuring science relevant to industry. The registration for the meeting is currently open. For more information, please visit www.eaap2016.org

South African Society for Animal Science

The 49th SASAS Congress will be held on 3-6 July 2016 at the Spier Hotel and Congress Centre, Stellenbosch, Western Cape Province. The main subject of the Congress will be about Novel Research – Functional Farming. For the first time, the 49th annual SASAS congress will be followed back-to-back by the 6th International Ratite Symposium, offering delegates the opportunity to attend either one or both of the scientific meetings. For more information visit the society website: http://www.sasas.co.za/

News from Industry

EuroGenomics Cooperative

New EuroGenomics Cooperative drives progress in bovine breeding. Seven key players of the bovine genetic improvement have established a European cooperative aimed at exchanging genomic data in Holstein breed, improving genomic evaluation techniques, and increasing the effectiveness of bovine breeding. The name of the organisation is: EuroGenomics Coöperative U.A.

Based on the strong principle that the genetics is owned by breeders, a legal entity under the form of a cooperative has been formed to optimise processes around mutual policy making and joint execution of activities. Within the cooperative, the partners focus on driving genetic progress by:

- Genotyping for breeding and herd management;
- Sharing of genetic data for reliable traits;
- Performing applied research;
- Genomic evaluation of animals based on the joint European reference population.

Innovative members

The newly formed EuroGenomics Coöperative U.A. is composed by seven members from eight European countries. They are driven by innovation and are continuously looking for new ways to improve the

effectiveness of bovine breeding. The large-scale genotyping of female animals that offers a new range of tools for breeders, genome sequencing and new selection techniques are a few examples of the fields of interest.

Members of the EuroGenomics Coöperative U.A.: Viking Genetics (Denmark, Sweden, Finland), Evolution and OrigenPlus (France), CRV (The Netherlands and Flanders, Belgium), CONAFE (Spain, 4AI centres are associated: Aberekin S.A., Ascol S.C., Xenetica Fontao S.A., Genetical S.C.), MCB Krasne and Polish Federation of Cattle Breeders and Dairy Farmers (Poland, 2 additional AI centres in Poland are associated: WCHiRZ Poznan, MCHiRZ Lowicz) Genomic evaluation for third parties

As a new activity, the EuroGenomics Coöperative offers third parties the option to apply for genomic evaluation of Al bulls (see press release: New genomic evaluation service for International Al bulls). This evaluation is based on the EuroGenomics reference population(*), which is the largest reference population world-wide with more than 33,000 genotyped Holstein bulls.

With the joint forces within the EuroGenomics Cooperative, European farmers will have access to reliable genomic breeding values for domestic as well as international bulls.

Since 2009. Holstein cattle breeders in Europe have decided to pool their genomic data to create the EuroGenomics Reference Population. Contributors are: Allice (on behalf of Evolution, Origen Plus, Gènes Diffusion), CRVm Viking Genetics, vit and DHV, CONAFE and Genomika Polska

Beef imports to USA set to increase

We A recent report by Rabobank estimates that South America is set to increase its beef exports by 11% in 2016. There are three factors contributing to this increase - favorable currency values, improved access to importing countries, and increased availability of beef. While Brazilian consumers are seeing their purchasing power decline, local beef

prices remain high. On the supply side, cattle producers have been encouraged to maintain cows in their herd rather than sending them to slaughter – a result of high calf prices driven by low calf availability. Meanwhile, the weaker currency has made Brazilian beef very competitive on international markets, and strong global demand has pushed local market prices higher. The result: High domestic beef prices have pushed consumers toward cheaper competing proteins like poultry, which in turn is freeing up additional beef for exports. Three additional highlights from the report include:

- I. Official Chinese imports of beef continue to increase despite a slowing economy. Beef imports to China increased by 60% from the same period last year, reaching 473,000 tons.
- 2. Australian beef production is expected to remain low in the first half of 2016.
- 3. According to the USDA's outlook report dated February 25, U.S. imports of beef and veal will drop by 24% to 900,000 tons

News from Science

Greenhouse gas mitigation potential from livestock sector revealed

The Scientists have found that the global livestock sector can maintain the economic and social benefits it delivers while significantly reducing emissions, and in doing so help meet the global mitigation challenge. The global livestock sector supports about 1.3 billion producers and retailers around the world, and is a significant global economic contributor. New analysis, published today in Nature Climate Change, estimates that livestock could account for up to half of the mitigation potential of the global agricultural, forestry and land-use sectors, which are the second largest source of emissions globally, after the energy sector. The lead author of this study, CSIRO's Dr Mario Herrero, said this new account

of the mitigation potential for the global livestock sector is the most comprehensive analysis to date as it considers both the supply and demand sides of the industry. A key finding is that we can get the best mitigation potential from the livestock sector if we take an integrated view of land use and practice change that considers the whole of agriculture and forestry as well as looking at dietary patterns and how we address the needs of global nutrition. "Livestock has a role in a healthy and sustainable diet, and the sector has an important economic and social role, particularly in developing countries," Dr Herrero said.

"We need to balance these health outcomes and the economic and social benefits, while also capturing the mitigation potential the livestock sector can offer." Dr Herrero said sustainably intensifying livestock production is one way this can be done.

"We've found that there are a number of ways that the livestock sector can contribute to global greenhouse gas mitigation," he said. "New management practices such as rotational grazing and dietary supplements can increase livestock production and reduce greenhouse gas emissions."

"We need to increase the adoption of these different strategies by making sure that we have the right incentives. If appropriately managed with the right regulatory framework, these practices can also achieve improved environmental health over and above the greenhouse gas benefits delivered, for example through improved ground cover and soil carbon."

The research was published in Nature Climate Change and carried out in partnership between CSIRO, the International Institute for Applied Systems Analysis, the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), Colorado State University, the University of Aberdeen, Chalmers University of Technology, Pennsylvania State University, FAO, Wageningen University, Karlsruhe Institute of Technology, the International Livestock Research Institute, University of Oxford, the PBL Netherlands Environmental Assessment Agency.

Project initiated to build resilient farming systems

A large-scale project that seeks to help smallholders adapt to climate change by practising agricultural systems that integrate tree planting, rearing of livestock and crop production has begun in West Africa. The Building Resilient Agro-forestry Pastoral Systems through Participatory Action Research (BRAS-PAR) project aims to improve the understanding of farmers' perceptions and demands by addressing barriers to technology adoption while taking into consideration gender and social differentiation.

Robert B. Zougmoré, who leads CGIAR's Research Program on Climate Change, Agriculture and Food Security (CCAFS) in West Africa, says the project's work plans include assessment of needs to build the capacity of stakeholders in adaptation planning. According to Zougmoré, the objectives of the project include engaging rural communities and other stakeholders to test and validate scalable climate-smart models of integrated crop-livestock-tree systems, and the dominant farming systems in the region.

The BRAS-PAR projectis led by the World Agroforestry Centre (ICRAF), with US\$2 million funding from CCAFS, Zougmoré adds. The four-year project, launched last month (4 May) in Ouagadougou, Burkina Faso, is being implemented by the Environment and Agricultural Research Institute (Burkina Faso), the Savanna Agricultural Research Institute (Ghana), the National Institute for Agricultural Research (Niger) and the Senegalese Agricultural Research Institute (Senegal).

Zougmoré says the project hopes to ensure that national agricultural research organisations, institutionalise participatory action, research in technologies development and adoption through integration of non-traditional partners such as agro-dealers, micro-finance institutions, national extension services and farmer's organisations.

Jules Bayala, a senior scientist at Kenyaheadquartered World Agroforestry Centre (ICRAF) and the project's principal investigator, says the adaptive capacity of small-scale farmers can be enhanced through the adoption of climatesmart agricultural technologies and practices.

"The CGIAR system through the [Research Program on] CCAFS is willing through these kind of projects to generate the scientific knowledge and evidence about agricultural options that can work well in West Africa," Bayala says.

Walter S. Alhassan, a former director-general of Ghana's Council for Scientific and Industrial Research, says the project holistically tackles practices such as zero tillage that could help farmers cope with the adverse effects of climate change as well as mitigate climate change impacts.

But he adds that addressing market challenges for farmer produce is not apparent in the project.

According to Alhassan, the organisations implementing the project should consider including fish culture and rural poultry production in the activities.

Alhassan explains that fish farming integrates well with rice cultivation in programmes involving irrigation systems.

This article has been produced by SciDev.Net's Sub-Saharan Africa desk.

Conference, Workshop and Meetings

May 16th - June 3rd, 2016

Short course on programming and computer algorithms in Athens GA (USA)

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A short course on programming and computer algorithms in animal breeding with focus on single-step GBLUP and reality of genomic selection will be held on May 16-June 3 in Athens GA (USA). The instructors will be Ignacy Misztal, Shogo Tsuruta, Daniela Lourenco and Yutaka Masuda (UGA), Andres Legarra (France) and Ignacio Aguilar (Uruguay). The topics are about programming in Fortran 95/2003, the algorithms useful in animal breeding modelling, the introduction to BLUPF90 family of programs, the theory of SNP BLUP, BayesX, GBLUP and single-step GBLUP Tools for genomic quality control, the Validation techniques, etc.

May 18th-29th, 2016

Innate host defence & infections conference on May 18th-29th 2016 in Utrecht (the Netherlands)

The conference will be held in in Utrecht (the Netherlands). The conference about Innate host defence & infections includes sessions, amongst others, on intestinal health, complement and vaccine/adjuvant development. Please have a look at the relative website: www.altantconference.nl, or the attached conference poster for more details.

May 23rd-June 3rd, 2016

Professional Certificate in Bioinformatics in Dublin (Ireland)

The course, organised by the GplusE project, will be running at Veterinary Sciences Centre at University College Dublin (UCD). Participants will be awarded a Professional Certificate in Bioinformatics on successful completion of the course. For more info: http://dem.mvmnet.com/link.php?M=2532950&N=6 324&L=6623&F=T

June 6th-8th, 2016

PAG ASIA 2016 in Singapore (Singapore)

The conference is at its 4th year. There will be

approximately 18 workshops, 6 plenary talks, industry workshops, a poster session, and an expo of 30+ tabletop exhibits, from leading companies in the life sciences industry. Nearly 300 attendees have registered in past years, working in all areas of agrigenomics including next generation sequencing, phenomics, proteomics, bioinformatics, data management, and new technologies. For more information you should visit the website: http://intlpagasia.org/2016/

June 8th-9th, 2016

The World Market 2016 Conference in Paris (France)

The French and European markets for milk and meat are now subject to the vagaries of world markets. To better understand and discuss their developments, there will be two conferences in Paris: the World Markets 2016 Conference, "Risks and opportunities for French and European channels". The dairy sector conference will be on June 8th (Retrospective 2015 Impacts of the dairy crisis, Impact on investment strategy and transformers, 2016 and medium-term outlook for supply and demand worldwide), the beef sector conference will be on June 9th (Retrospective 2015 Evolution of expectations and consumer habits; Market access, Strategy Communications exporters, 2016 Medium-term outlook for supply and demand worldwide). These conferences are intended for managers and technicians, companies or suppliers of milk and meat sectors, the economic advisers of Chambers of Agriculture, agricultural advisors of local authorities, teachers and the press.

For more info: http://idele.fr/no_cache/recherche/publication/idelesolr/recommends/conferences-marches-mondiaux-2016-risques-et-opportunites-pour-les-filieres-françaises-et-eur.html

June 7th-11th, 2016

NOVA course in Odalgården (Sweden)

The NOVA course on Genetic Epidemiology

of infectious diseases in livestock will be held in Odalgården, near Uppsala this year. The updated list of teachers is: Ulf Emanuelson (SLU), Tom Britton (Stockholm University), Osvaldo Anacleto (The Roslin Institute, University of Edinburgh), Smaragda Tsairidou (The Roslin Institute, University of Edinburgh). The course is organized and hosted by DJ de Koning and Susanne Eriksson at SLU.

More information about the course at: https://www.nmbu.no/en/students/nova/students/phd-courses/ phd-2016/node/23527

The registration can be done at: http://www.slu.se/nova-registration. The course dedicated e-mail address is: nova-genepi@slu.se

June 12th-17th, 2016

ICQG5 conference in Madison WI (USA)

The 5th International Conference on Quantitative Genetics will be held in Madison WI (USA), during June 12-17, 2016. The registration page is now open. For more information: www.icgg5.org

June 20th-23rd, 2016

The 16th International Conference on Production Diseases in Farm Animals (ICPD) in Wageningen (the Netherlands)

A total number of 188 abstracts have been accepted for presentation in 11 scientific sessions. The preliminary programme is now available on the conference website. Those who are interested to participate should go to the conference website for more information on the registration procedure. Moreover, there will be an interesting social programme:

Wednesday 22 June a tour will be organized at the animal research facilities in Wageningen with a buffet dinner, hosted by the Animal Sciences Group.

Thursday 23 June will end with an excursion to Burgers' Zoo in Arnhem with an invited lecture by Dr Constanze Mager, head Education and research at Burgers' Zoo. This will be concluded by a Safari Style Conference Dinner!

June 20th-24th, 2016

The 13th International Colloquium on Paratuberculosis in Nantes (France)

The 13th International Colloquium on Paratuberculosis will be held in Nantes (France) from June 20th to 24th. For more information please see website: https://colloque.inra.fr/icp2016

June 23rd-24th, 2016

The First Life Science Young Scientists Forum in Wuhan (China)

All young scientists (~35 yrs of age), with an advanced degree/training (e.g. postdoc experience) in animal science, aquaculture, biomedical, microbiology and molecular engineering, from known universities and institutes overseas are invited. For more information: http://www.hzau.edu.cn/2014/ch/notice/201603/t20160317 67035.htm

June 24th, 2016

The International Conference "Agrimonde-Terra" in Paris (France)

«Land Use and Global Food Security in 2050», a foresight study by INRA will be presented in Paris next June.

What could be land-use changes in the world between now and 2050? How will they impact on both global and regional food security in the context of climate change? The Agrimonde-Terra foresight study explores a variety of land-use scenarios based on qualitative and quantitative analysis. Scenarios are built and analysed with an international expert's panel and using the INRA-CIRAD GlobAgri quantitative platform. They combine the possible evolutions of a large diversity of drivers (climate change, food diets, urban-rural relationships, farming structures, crop

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and animal production systems, public policies). The conference will present and discuss the implications of each scenario for food security, providing 'food for thought' for research institutions, policymakers and all actors involved in questions of land use and food security at global or regional scales. For more info: http://www.cirad.fr/en or http://www.inra.fr/

June 27th-29th, 2016

The Infoweek in Brussels (Belgium)

The Infoweek about calls in 2017 for Societal Challenge 2, "Food security, sustainable agriculture and forestry, maritime and maritime inland water research and bio-economy" will be held in Brussels. At this event everyone can learn about the calls and topics, be updated on relevant past research outcomes and meet partners in the brokerage. The event will include the following events:

- 27/06 Dissemination event The event will show case results of interesting and successful FP7 and Horizon 2020 projects which can be inspirational for calls open in 2017.
- 28/06 Morning Infoday on SC2 calls 2017
 Practical information to build successful proposals and interactive presentation of topics. Possibility to ask questions on topics will be opened like last year.
- 28/06 Afternoon Brokerage event The brokerage event is organised by the BIOHORIZON project.
- 29/06 Coordinators day Coordinators of projects selected from the 2015 calls are invited to take part to learn how to run their project successfully.

The Infoweek will be held at Charlemagne building, Rue de la loi 170, Brussels.

July 1st-3rd, 2016

ICAR 2016 Satellite Meeting on Camelids Reproduction in Tour (France)

The website of the ICAR 2016 Satellite Meeting

on Camelids Reproduction is in operation and you can access it at http://www.icarcamelidsatellite.com. On the website there are all information about the meeting that will be held in Tour (France) including registration to the conference and submission of abstracts. The deadline for submission of short abstracts is 15 March 2016 and the deadline for extended abstracts is 1 May 2016.

July 3rd-8th, 2016

The South African Society for Animal Science in Stellenbosch (South Africa)

The 49th SASAS Congress will be held in Western Cape Province at Stellenbosch. The main subject of the Congress will be "Novel Research – Functional Farming". For more information visit: http://www.sasas.co.za/

July 3rd-8th, 2016

The World Buiatrics Congress in Dublin (Ireland)

The 2016 World Buiatrics Congress will be held in the Convention Centre Dublin, Ireland. For more information please visit: http://www.wbc2016.com . Buiatrics is the study of cattle and their health and the World Congress is held every two years. The Congress will be held over five days, bringing together world experts in cattle health and production systems: latest updates in diagnostics, animal health systems, animal welfare initiatives, food safety, zoonosis, mastitis control, parasitism, reproductive technologies and a wide range of infectious disease control programmes. There will be 2,500-3,000 delegates will attend from academia, research, general practice and government services branches of the veterinary profession as well as leading animal scientists.

July 4th-7th, 2016

The Australian Society of Animal Production conference in Adelaide (Australia)

The Australian Society of Animal Production and the New Zealand Society of Animal Production joined together to organize the conference in Adelaide in South Australia. The conference brings together a wide range of disciplines to provide whole approaches to problems faced by all production animal species. For more information please visit: www.asap.asn.au/conference/

July 17th-19th, 2016

The 5th Grazing Livestock Nutrition Conference in Park City UT (USA)

The meeting will focus on enhancing management, production and sustainability of grazing ruminants in extensive landscapes. You can have more information and register on the meeting website: https://asas.org/meetings/glnc2016/home

July 19th-23rd, 2016

JAM in Salt Lake City UT (USA)

The 2016 ADSA-ASAS Joint Annual Meeting (JAM) will be held in Salt Lake City UT (USA), for more information for the North American animal science meeting: https://asas.org/meetings/jam-2016/home

August 29th-September 2nd, 2016

EAAP annual meeting in Belfast (UK)

The 67th EAAP annual meeting will be held at the Waterfront Conference and Exhibition Centre in the heart of Belfast and on the banks of the River Lagan (UK). Around 1400 animal scientists are expected for the largest livestock science meeting held in Europe.

September 12th-15th, 2016

Conference on "Grazing in a changing Nordic region" in Reykjavik (Iceland)

The conference will take place in Reykjavik (Iceland). The conference will bring together policy-makers and experts of different disciplines to provide an integrated assessment of grazing in the changing Nordic region through presentations. The topics that will be dealt are: Nordic ecosystems and their responses to grazing under climate change; Historical and cultural values of traditional landscapes (conservation and restoration, biodiversity); Grazing management in Nordic conditions; Environmental impact of grazing on biodiversity and ecosystem services; Sustainable use and conservation of animal genetic resources in grazing; Socio-economic effects of grazing in rural areas (tourism, rural livelihoods) and linking goals of sustainability with support policies for grazing based agriculture. On the conference http://www.nordicgrazing2016.org/ there are background and practical information, the preliminary scientific program, and information to register and submit abstracts for the conference.

September 15th-17th, 2016

20th Congress of the European Society of Veterinary and Comparative Nutrition in Berlin (Germany)

The congress will be hosted by the Freie Universität Berlin this year. For registration and detailed information about the abstract submission, deadlines, fees, accommodation, the Anniversary Food Market etc., please go to the conference website: www.esvcn2016.vetmed.fu-berlin.de.

September 15th-17th, 2016

X Iberian Congress on Animal Genetic Resources in Castelo Branco (Portugal)

At the Escola Superior Polytechnic Institute Agrária do Castelo Branco, The Portuguese Society of Genetic Resources Animais (SPREGA) and the Spanish Society for Animal Genetic Resources (SERGA) with the support of the Agricultural College Polytechnic Institute Castelo Branco (ESA / IPCB), will hold the X Congress Iberian Resources genetic Animals.

Like in previous congresses researches will present new aspects about the genetic diversity of races, productive or demographic characterization, and related management programs, conservation, improvement and marketing of Animal Genetic Resources (AnGR). Proposed presentation will be accepted for oral presentation or poster.

The main topics of the conference are: Genetic characterization; Demographic Characterization Morphological and productive characterization; Reproductive technologies and conservation programs; Selection Schemes; Certificates and sustainability of AnGR Products; there will also be free communications. For more info: http://www.sprega.com.pt/conteudo.php?idm=49

September 19th-21st, 2016

OECD "Blue Sky" event in Ghent (Belgium)

In September 2016 the Blue Sky event will be held. This even takes place every 10 years, and this year, like always, will gather science, technology and innovation practitioners around a discussion on evidence gaps and data needs.

The European Commission has established through DG Research & Innovation intense cooperation with the OECD's Science, Technology and Innovation Directorate. This cooperation has resulted in the launch of the STI Policy Survey 2016 (https://www.innovationpolicyplatform.org/ecoecd-stip-database), which this year, and for the first time, is a joint product by both institutions. In addition, comprehensive work on the incidence and impact of R&D tax incentives has been launched and an observatory for public sector innovation is being

set up.

In this context, it is important to draw the attention of the SSH and Forward-looking community to the upcoming OECD Blue Sky Forum which shall take the form of an unconstrained discussion on evidence gaps in science and innovation and on initiatives the international community can take to address data needs in this area. It will engage the policy community, data users and providers into an open dialogue to review and develop a long-term agenda on science, technology and innovation data and indicators.

It will showcase examples of data and indicator development with the potential for international adoption, as well as examples of ground-breaking application of existing or new sources addressing questions and providing evidence on the state of science and innovation systems and the role of STI policies worldwide.

Please find the background and call for paper at http://www.oecd.org/science/blue-sky.htm. The event counts on you to:

- submit original contributions on your preferred STI theme (as it is "blue sky", the focus of these inputs is not constrained);
- diffuse the call to all those who can help develop a forward-looking and policy-relevant agenda on STI measurement.

October 26th-27th, 2016

PhenoDays in Berlin (Germany)

The phenotyping conference will be held this year in Berlin. As always, this will be an interesting and well-attended event with delegates and speakers from academia and industry across the world. The first day will focus on laboratory and greenhouse phenotyping and the second day on field phenotyping. The conference participants aim to present new science, including new research and new applications for both automated and manual phenotyping.

PhenoDays 2016 will be held at the Hotel Nhow, Berlin. To register and to see the session's program now you can visit the specific website: www.phenodays.com

November 14th-16th, 2016

Symposium on Gut Health in Production of Food Animals in St. Louis MO (USA)

The deadline to submit abstracts will be Thursday, September 8, 2016. Registration is also open and you can register for the meeting as well as submit your abstract on the symposium website. The aim of the symposium is to discuss the role of good health in animal production and the dynamic and essential role the gut plays in it. The symposium will include all species in animal agriculture and cover different aspects of the gut and important factors in gut health maintenance and disease. The symposium will provide a platform to present the latest research findings, from the fundamental aspects of defining and measuring gut health to the complex and interactive roles of the intestinal microbiota. intestinal epithelium, immune cells, and nutrition in modern animal production. For more information: http://www.guthealthsymposium.com/2016/

September 6th-8th, 2017

WAFL international scientific conference in Wageningen (the Netherlands)

WAFL will be held from 6-8 September 2017 at Wageningen (the Netherlands) and will be organized by the Wageningen Centre for Animal Welfare and Adaptation (CAWA) in collaboration with Van Hall Larenstein University of Applied Science. Some topic that will be discussed are: Welfare assessment protocols; Precision Farming and other new techniques for welfare measurements; Statistical methods to deal with large amounts of data; Genetics and welfare; Communication to consumers and welfare labelling. Please visit the website http://

www.wafl2017.com/ for more information on the main conference, and the pre-conference activity. The important dates are 15 October 2016 for the opening of the registration and abstract submission and I February 2017 for the deadline of the abstracts submission

Publications

Feeding livestock in dry areas.

An interesting article article on 'Cactus as animal feed' by Jose C.B. Dubeux has just been posted on Feedipedia website in the "Broadening Horizons" area: http://www.feedipedia.org/

A new web-section on 'Insects as animal feed' on FAO website

Trends towards 2050 predict a steady population increase to 9 billion people, forcing an increased food/feed output from available agro-ecosystems resulting in an even greater pressure on the environment. Scarcities of agricultural land, water, forest, fishery and biodiversity resources, as well as nutrients and non-renewable energy are foreseen.

Edible insects contain high quality protein, vitamins and amino acids for humans. Insects have a high food conversion rate, e.g. crickets need six times less feed than cattle, four times less than sheep, and twice less than pigs and broiler chickens to produce the same amount of protein. Besides, they emit less greenhouse gases and ammonia than conventional livestock. Insects can be grown on organic waste. Therefore, insects are a potential source for conventional production (mini-livestock) of protein, either for direct human consumption, or indirectly in recomposed foods (with extracted protein from insects); and as a protein source into feedstock mixtures.

Since 2003, FAO has been working on topics pertaining to edible insects in many countries worldwide. FAO 's contributions cover the following thematic areas:

- the generation and sharing of knowledge through publications, expert meetings and a web portal on edible insects;
- awareness-raising on the role of insects through media collaboration (e.g. newspapers, magazines and TV);
- the provision of support to member countries through field projects (e.g. the Laos Technical Cooperation Project);
- networking and multidisciplinary interactions (e.g. stakeholders working with nutrition, feed and legislation-related issues) with various sectors within and outside FAO

For those and more information, please visit the FAO website dedicated to insects as animal feed: http://www.fao.org/edible-insects/en/

FAO published a new website for the project to reduce enteric methane

'Reducing Enteric Methane for Improving FoodSecurityandLivelihoods',aprojectimplemented by the Food and Agriculture Organisation (FAO) and New Zealand Agricultural Greenhouse Gas Research Centre in association with the Global Research Alliance (GRA), has a new website where you will soon be able to see results from the project. The project aims to identify system specific technologies and interventions to increase ruminant productivity and reduce the emissions intensity of enteric methane. Ruminant production systems with low productivity lose more energy per unit of animal product than those with high productivity. The solution is to identify and implement low cost or no cost technologies that offer win-win scenarios to increase productivity across production systems, strengthen farmer livelihoods, and increase food

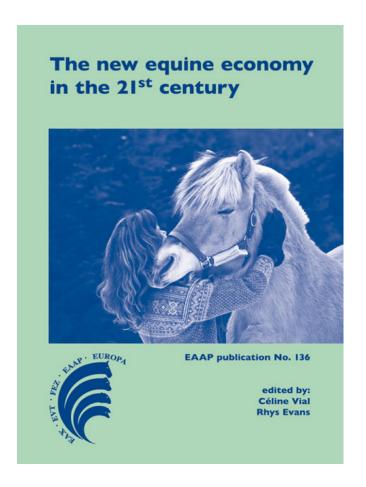
security, while reducing methane emissions intensity. To see the website: http://www.fao.org/in-action/ enteric-methane/en/

The new equine economy in the 21st century

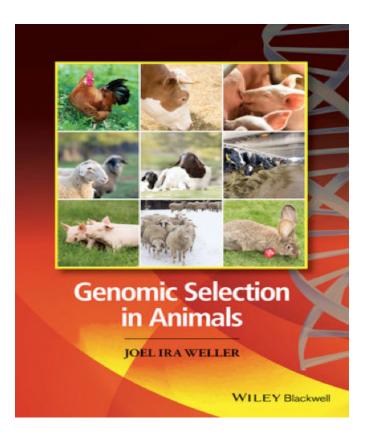
EAAP is proud to announce a new book in the EAAP Scientific Series, the Volume 136 of our scientific collection is The new equine economy in the 21st century edited by: C. Vial and R. Evans - ISSN: 0071-2477.

From the time they became domesticated, horses have fulfilled roles imposed by human societies. Changing economies, societies and technologies have transformed the predominant roles held by horses in human life. They are now overwhelmingly employed in improving the quality of human life. Across Europe the status of the horse is evolving as ridership grows, and these changes create new economic opportunities for equine and rural enterprises.

The 20 chapters focus on new or developing sectors of the equine economy through sections devoted to impact studies, economic opportunities, socioeconomic challenges, social economy, governance issues, sustainable development, the case of horse meat and national reports about the horse in the national economies. The topics range from equine tourism, alternative medicine for competition horses, and the use of social media, through to what may be the most complete guide to the scientific production of horse meat to be published so far. Each chapter provides a glimpse of where the equine economy may go in the 21st Century, based upon the research of experts in their field. No one can predict the future, but the authors give us insight into some of the cutting edge trends which are shaping the nature of the equine world and producing the New Equine Economy of the 21st Century.



Genomic Selection in Animals by Joel Ira Weller. This book, just published, explained in well detailed and clear manner the new selection techniques after the genomic revolution. More info for the book can be found at: http://eu.wiley.com/WileyCDA/WileyTitle/productCd-0470960078. html



FAO symposium webcast on sustainable food system and nutrition

FAO hosted the international symposium on "The role of agricultural biotechnologies in sustainable food systems and nutrition" in February. The symposium included a session on the use of biotechnologies to assist smallholder livestock keepers and fisherfolk to adapt to climate change. An interesting webcast of the symposium can be viewed here: (http://www.fao.org/webcast/home/en/item/4036/icode/)

The camel, new challenges for a sustainable development (scientific article)

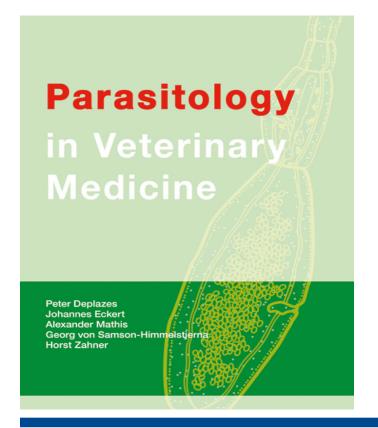
Through the link below, you can read an interesting article by Bernard Faye about camels: http://link.springer.com/article/10.1007%2 Fs11250-016-0995-8

Parasitology in Veterinary Medicine

Number 7 2016

Peter Deplazes, Johannes Eckert, Alexander Mathis, Georg von Samson-Himmelstjerna and Horst Zahner

Parasitology for basic and advanced studies and veterinary practice. The classical textbook Parasitology in Veterinary Medicine, now available in an updated English version, is not only ideal for exam preparation but is also of relevance in veterinary practice. The book allows easy and structured learning by providing a clear outline of the subject matter and practical chapter summaries. All relevant protozoa, helminths and arthropods that cause parasitic diseases or act as vectors of pathogens are presented. Overviews of treatment and control measures are given per animal species and enables rapid contextual orientation. Zoonotic and food-borne parasites are also discussed. Memorable life cycles of parasites and excellent colour photographs of the clinical symptoms and pathological changes illustrate the contents. Diagnostic panels allow for rapid differentiation of the developmental stages under the microscope. In the glossary numerous technical terms are defined and explained etymologically.



Job offers

45 months Postdoctoral Scholar position in Belgium

A research position at the rank of Postdoctoral Scholar is available at the Numerical Genetics, Genomics Modelling Group of Gembloux Agro-Bio Tech of the University of Liège in the area of Animal Breeding and Genetics with particular emphasis on the integration of dominance effects in whole genome-prediction methods to improve the selection of livestock species. This position is for up to 45 months. The candidate is expected to be willing, based on her/his research results, to contribute to the development and implementation of advanced genomic crossbreeding genomic evaluation systems in Belgium. This position is therefore an opportunity to cover the whole process of computation of genomically-enhanced breeding values (and crossbreeding effects), from basic research to implementation. The individual is expected to be able to develop methods, to program, to perform data analysis, to present research results at conferences and to stakeholders and to write manuscripts for publication. The selected individual is also expected to help in the training of students and to contribute in writing of grant proposals.

The candidate will be expected to fulfil already all legal requirements to work in Belgium (http://www.euraxess.be/cfwb/) and to have a Ph.D. in Animal Breeding or in related fields with expertise in quantitative genetics, statistical design and data analysis. The awarding of the Ph.D. has to be obtained not longer than 5 years ago. The working place is Gembloux Agro-Bio Tech campus. The candidate should be able to integrate in a diverse environment with collaborations within the University of Liège with the Faculty of Veterinarian Medicine (Prof Michel Georges and Dr Tom Druet) and with the Belgian swine and cattle breeding industry in particular working with the Walloon Breeding Association (AWE).

Interested persons should submit curriculum vitae,

a statement of research experience and interest, and contact information for three references. The position is immediately open, therefore the starting date is when a suitable candidate is identified. Please send the requested documents electronically as a single PDF file to Dr Nicolas Gengler at: nicolas.gengler@ulg.ac.be.

Assistant or Associate Professor in Animal Nutrition at University of New Hampshire (USA)

The Department of Biolog

ical Sciences, College of Life Sciences and Agriculture, University of New Hampshire, Durham (USA), invites applicants for an academic-year, tenure-track faculty position in Animal Science at the Assistant or Associate Professor rank. The position has an anticipated start by January, 2017. We seek a nutritionist specializing in agriculturally important, non-ruminant animals (e.g. poultry, swine) to complement existing research and teaching strengths in Animal Science and Sustainable Agriculture and Food Systems. Research foci may include: creating and determining the nutritional potential of alternative feeds, including those derived from human food waste; developing novel feeding strategies and temporary pasture systems (e.g. legumes, seed/tuber crops); and/or evaluating species and breed suitability for extensive culture, limited confinement, and/or low-cost housing systems. Evaluation endpoints may include effects on growth, physiology, health, body composition, and/or palatability. Research should have direct and beneficial impact on regional stakeholders and be relevant to the small-scale, diversified agricultural production systems typical of the north-eastern United States. Candidates will be expected to contribute to systems-level collaborative research. Especially desirable are those candidates who can work across multiple species. Please contact David Berlinsky for more information: David.Berlinsky@ unh.edu

African geneticists of the Intra-Africa Academic mobility

There is a call for a project to encourage Intra-Africa Academic mobility. For more information, please visit the website:

https://eacea.ec.europa.eu/intra-africa/funding/intra-africa-academic-mobility-scheme-2016_en
African geneticists are invited to consider the opportunity to work on this project

Ph.D. students for the University of Georgia (USA)

The animal breeding and genetics group at the University of Georgia (USA) (http://nce.ads.uga.edu/index.html) is seeking talented PhD students who want to join a team to conduct cuttingedge research on genomic methods for livestock improvement.

The research of the University of Georgia combines quantitative genetics, genomics, programming, bioinformatics, and statistics. There are collaboration with the largest U.S. breeding companies and associations in dairy, beef, swine, poultry, and fish. There is also access to extensive data sets across species and premier computing facilities. For those who are interested, please send an email to nce.ads. uga@gmail.com.

Geneticist at PIC in Hendersonbille TN (USA)

This position is responsible for designing, developing and executing genetic services to PIC's internal and external customers in North America; the objective of genetic services is to increase the success of our customers by maximizing the value and realization of impact of new genetic technologies and dissemination strategies. This dynamic position requires strong technical communication skills to support and position PIC Genetic Improvement

Program to sophisticated customers.

The person will provide genetic services to PIC customers in North America. The candidate must be able to work independently and thrive in a fast-paced, dynamic environment, to understand genetic improvement technologies and he/she must be good communicator, having experience with processing and analyzing data. An advanced degree is requiredand with Animal Breeding and Genetics experience. The candidate must also speak English fluently. All interested candidates can submit their resume to careers@pic.com.

Professor in Molecular Genetics at Saskatoon (Canada)

The position is for an assistant Professor in Molecular Genetics of Domestic Animals at University of Saskatchewan (Canada). The successful candidate will have excellent disciplinary knowledge (Ph.D.) of molecular genetics and its application to domestic animal species. Post-doctoral experience is preferred.

The successful candidate is expected to develop an internationally recognized research program in molecular genetics that is extramurally-funded including from nationally competitive Tri-Agency programs. The successful candidate will teach in both undergraduate and graduate student programs.

This appointment will be made as soon as September I, 2016 with review of applications beginning on June 15, 2016. Interested applicants should submit their curriculum vitae, a cover letter that includes details of their proposed research program and teaching philosophy, and full contact information for three referees, in confidence to Dr. Andrew Van Kessel, Professor and Head, Department of Animal and Poultry Science, University of Saskatchewan (andrew.vankessel@usask.ca).

For more information about the department of Animal and Poultry Science, please visit:

http://agbio.usask.ca/departments/animal-poultry-science/index.php

PhD position available at The University of Sydney (Australia)

The position is for the genomic selection in the Black Tiger Prawn (University of Sydney). The PhD project is available in The Australian Research Council Industrial Transformation Research Hub (ARC ITRH) for Advanced Prawn Breeding. This project will aim to optimise breeding programs by integrating whole-genome prediction techniques to improve performance of P. monodon. This project will provide the student with cutting-edge quantitative genomic techniques applied to the rapidly growing aquaculture industry. The desired candidate will have a sound background in statistics and/or quantitative genetics, aquaculture/animal production and computational analyses. Writing computer software and analytical pipelines will be required. Knowledge of Linux, shell scripts, R, FORTRAN, C or Python would be an advantage.

It is open to Australian applicants. International students are welcome to apply but may be subjected to international tuition fees which are not covered by this scholarship. For more information on what the ARC Research Hub for Advanced Prawn Breeding is aiming to achieve and its partners please visit https://research.jcu.edu.au/itrh-apb. For further information please contact: Dr Mehar Khatkar (mehar.khatkar@sydney.edu.au) and Prof Peter Thomson (peter.thomson@sydney.edu.au)

Post-doc position at MARC NE (USA)

The U.S. Meat Animal Research Center invites applications for a post-doctoral Research Associate position in livestock genomics. The successful candidate will work on problems related to identifying genomic variation responsible for

phenotypic variation in cattle and pigs.

A PhD is required. U.S. Citizens and Permanent Residents seeking U.S. Citizenship may apply Please ask one of us for more information: Dr. Brittney Keel (Brittney.Keel@ars.usda.gov), Dr. Warren Snelling (Warren.Snelling@ars.usda.gov)

25 Postgraduate Research Awards in Armidale (Australia)

The University of New England (Armidale, Australia) has announced 25 International Postgraduate Research Awards (UNE IPRA). These are Scholarship being offered to top quality international candidates who wish to commence in a research degree at UNE in early 2017. Up to 25 Scholarships are available to outstanding applicants in the round which opened 18 April 2016 and will close 30 June 2016. Information about the UNE IPRA Scholarship can be found at

http://www.une.edu.au/research/res-services/hdr/hdr-scholarships/une-ipra-scholarship. The scholarships are UNE-wide, and people interested in Animal Science are welcome.

If you are interested to apply, please contact Prof Julius van der Werf (http://www.une.edu.au/staff-profiles/ers/jvanderw)

Post-doctoral fellow position at NCSU (USA)

A post-doctoral fellow position is available at the breeding and genomics group at North Carolina State University. The successful candidate will work on the collection, curation, analysis and integration of genotype and microbiome sequence data for the prediction of efficient lean growth in swine. The candidate will be tasked with developing implementing and testing pipelines for data analysis in a large research/industry population to investigate the interplay between host and guest genomes in

growth. Excellent opportunities exist to collaborate in related projects and across disciplines.

A Ph.D is required as well as experience with genomic data modelling. For more information please contact Dr. Christian Maltecca (christian_maltecca@ncsu.edu).

A postdoctoral position is available in the Peatman lab in Auburn University AL (USA)

The Peatman laboratory in the School of Fisheries, Aquaculture, and Aquatic Sciences, Auburn University is looking for a postdoc to work on a variety of applied genetic and genomic projects on aquatic organisms (e.g. catfish, bass, oysters). The desired skills and experience are a PhD in Cell Biology, Molecular Biology, Genomics, and/or a PhD in an agricultural science with a dissertation emphasis on genetics and/or genomics. Experience in molecular biology techniques is required.

Applicants should have an established peer-reviewed publication record and have excellent written and verbal communication skills.

For more information, please visit www.peatmanlab.
org
. The contact is Dr Eric Peatman (peatmer@ auburn.edu)

The **World Animal Science News** is the Official WAAP Newsletter. This interesting update about activities of the global animal science community presents information on leading research institutions in the entire world and also informs on developments in the industry sector related to animal science and production. The Newsletter is sent to all WAAP member organizations and to their associates. You are all invited to submit information for the newsletter. Please send information, news, text, photos and logo to waap@waap.it.

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