



December 2014

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## That was the year that was.....

The past year has been full of change and has seen the Animal Welfare Science Centre consolidating its capabilities in animal welfare RD&E and teaching.

Negotiations with the South Australian Research and Development Institute and the University of Adelaide will result in their admission to the Centre as full partners in the coming year. The SA 'arm' of the Centre will bring key scientific expertise together with research infrastructure which will greatly strengthen the Centre's research capability across all sectors but especially in the intensive industries.

The Centre at the University of Melbourne is now operating out of a new Faculty which has been established. The Faculty of Veterinary and Agricultural Sciences will enhance the already strong communication between veterinarians and animal scientists and will deliver an integrated learning experience for students at all levels.

The Centre has strengthened its capability in the beef and sheepmeat industries through the appointment of Dr Rebecca Doyle as Research Fellow at the University of Melbourne. Rebecca's position is supported by the Victorian Department of Environment and Primary Industries and Meat and Livestock Australia.

The Ohio State University has made two key appointments in the past year. Dr Katy Proudfoot has been appointed Assistant Professor within the Department of Veterinary Preventive Medicine. Katy has a wide interest in production animal welfare and her research interests currently are dairy cow welfare and the effects of social stress on immunity in cattle. The other key appointment is that of Dr Monique Pairis Garcia who has joined the Department of Animal Sciences. Monique is a veterinarian who obtained her PhD from Iowa State University in the study of lameness in sows and pain management. Monique is experienced in welfare assurance programs in both the pork and dairy industries which will add to the Centre's expertise in this area.

Three Board members have resigned this year, Dr Ron Prestidge (Future Farming Systems Research DEPI), Prof Ron Kensinger (The Ohio State University) and Prof Rick Roush (Melbourne School of Land and Environment). The Centre is very appreciative of their considerable input to the Centre over the years, particularly their guidance and governance.

Dr. Henry Zerby (Department of Animal Sciences) has taken over from Prof Kensinger as OSU representative on the Board, Prof Ken Hinchcliff will maintain the University of Melbourne representation on the Board in his capacity as Dean, Faculty of Veterinary and Agricultural Sciences and Dr. Chris Korte of the Agriculture Productivity Division has replaced Ron Prestidge as DEPI representative.

As a result of the change in the Commonwealth Government, the Australian Animal Welfare Strategy has been disbanded together with the Australian Animal Welfare Advisory Committee (AusAWAC). The Commonwealth has formed the Animal Welfare Task Group which will not be a 'standing committee' but will respond, as required, to requests from the Agriculture Senior Officials Committee (ASOC) and other Government agencies.

The Centre is a member of the National Primary Industry Animal Welfare Research Development and Extension Strategy, (funded by the Rural Development Corporations, core research providers and the Victorian and Queensland State Governments), Chaired by Prof Alan Tilbrook, SARDI. This RD&E Strategy continues to pursue its charter to deliver animal welfare research, development and extension programs in the primary industries sector which are nationally significant, high priority and cross-sectoral in application and require a high degree of collaboration in research and funding.

### AWSC Students



The AWSC would like to wish you a very happy and safe Christmas and all the best for a great New Year.



# Sheep welfare survey

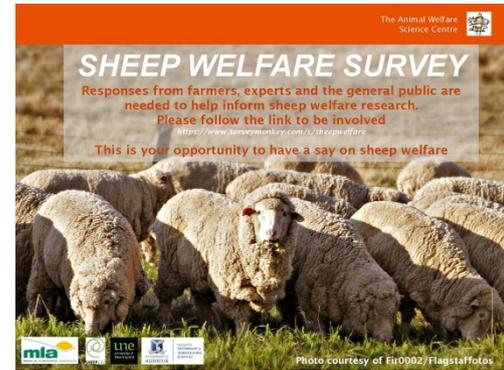
The AWSC and the University of New England, in conjunction with the Sheep CRC and MLA, have just launched a large sheep welfare survey.

The aim is to get an understanding of both the welfare issues associated with extensive management of sheep in the Australian environment, as well as what people believe to be appropriate measures of sheep welfare.

We're hoping for answers from producers, industry experts, scientists and the general public. This questionnaire will take approximately 20 min of your time.

To have your say, please visit

<https://www.surveymonkey.com/s/sheepwelfare>



# ARC Linkage project

Prof. Paul Hemsworth is leading an exceptional team which was successful in attracting ARC funding for the project 'Human-animal relationships in zoos: Optimising animal and visitor experiences'.

Human-animal relationships affect farm and companion animal welfare but although zoos substantially contribute to the Australian economy, employment and tourism and the conservation of endangered species, these relationships have been poorly researched in zoo animals. Understanding the effects of visitor-zoo animal relationships provides opportunities to improve animal management to ensure good animal welfare, as well as good visitor experience and visitor participation in species conservation.

Technology will be developed to monitor animal and visitor behaviour and understand visitor effects on the animal and, in turn, the visitor. These developments will provide zoos with the capability to use innovative animal and visitor monitoring and management and visitor educational strategies to optimise animal welfare as well as visitor experience and conservation attitudes.

This collaborative project, with partners from Deakin University, Zoos Victoria, Taronga Conservation Society, Detect Australia and the Victorian Department of Environment and Primary Industries will also train a PhD student and 3 masters students.



# Assessing and addressing on-farm sheep welfare

The welfare and survival of sheep are vital to both farming profits and community acceptance of products. In recognition of this, recent appointee at the AWSC, Dr. Rebecca Doyle is leading a Meat and Livestock Australia funded project which will address the important issues of sheep welfare, mortality and farmer efforts to improve these parameters.

In collaboration with scientists and experts from the Mackinnon Project and the Victorian Department of Environment and Primary Industries, this 3 year project will initially review prevalence and cause of sheep mortalities and develop an understanding of the relationships between producer attitudes to animal welfare and other job-related characteristics (e.g. knowledge, work motivation, job satisfaction, perceived 'barriers' to best practice, and sources of advice and trust) and how these relate to management and on-farm sheep mortality and welfare.

The project will then develop and trial an intervention strategy to address producer attitudes, other job-related characteristics and behaviour where necessary and conduct a detailed assessment of the production, financial and welfare changes seen in response to changes in farmer characteristics and practice change, including a cost-benefit analysis of the intervention.

The PhD student working within this project, Carolina Munoz is looking forward to further developing her research and extension skills.

For further details, please contact Rebecca, [rebecca.doyle@unimelb.edu.au](mailto:rebecca.doyle@unimelb.edu.au)



Rebecca Doyle



## Publications - 2014

### Research Publications in Refereed Journals

- Colditz, I.G., Ferguson, D.M., Collins, T., Matthews, L. and Hemsworth, P.H. (2014). A prototype tool to enable farmers to measure and improve the welfare performance of the farm animal enterprise: The Unified Field Index. *Animals* 2014, 4(3), 446-462; doi:[10.3390/ani4030446](https://doi.org/10.3390/ani4030446)
- Conley, M.J., Fisher, A.D., and Hemsworth P.H. (2014). Effects of human contact and toys on the fear responses to humans of shelter-housed dogs. *Applied Animal Behaviour Science* 156, 62-69
- Fisher, A.D., Stevens, B.H., Conley, M.C., Jongman, E.C., Lauber, M.C., Hides, S.J., Anderson, G.A., Duganzich, D.M. and Mansell, P.D. (2014) The effects of direct and indirect road transport consignment in combination with feed withdrawal in young dairy calves. *Journal of Dairy Research*, 81, pp 297-303
- Hetti Arachchige, A. D., Fisher, A. D., Wales, W. J., Auld, M. J., Hannah, M. C., & Jongman, E. C. (2014). Space allowance and barriers influence cow competition for mixed rations fed on a feed-pad between bouts of grazing. *Journal of Dairy Science* 97: 3578-3588
- Rowell, Z.E. (2014). Locomotion in captive Asian elephants (*Elephas maximus*). *Journal of Zoo and Aquarium Research*, Vol 2, No 4, pp130-135. <http://www.jzar.org/jzar/article/view/50/48>
- Jongman, E.C. and Butler, K.L. (2014). The Effect of Age, Stocking Density and Flooring during Transport on Welfare of Young Dairy Calves in Australia. *Animals* 2014, 4(2), 184-199
- Larsen, M.J., Sherwen, S.L. and Rault, J.L. (2014). Number of nearby visitors and noise level affect vigilance in captive koalas. *Applied Animal Behaviour Science*, Feb 2014 Available online <http://dx.doi.org/10.1016/j.applanim.2014.02.00>
- Pighin, D. G., Brown, W., Ferguson, D. M., Fisher, A. D. and Warner, R. D. (2014). Relationship between changes in core body temperature in lambs and post-slaughter muscle glycogen content and dark-cutting. *Animal Production Science*, 2014, 54, 459-463. Available online <http://dx.doi.org/10.1071/AN12379>
- Ralph, C.R., Hemsworth, P.H., Leury, B.J. and Tilbrook, A.J. (2014). Relationship between plasma and tissue corticosterone in laying hens (*Gallus gallu domesticus*): implications for stress physiology and animal welfare. *Domestic Animal Endocrinology* 50 (2015) 72-82
- Rault, J-L., Morrison, R.S., Hansen, C.F., Hansen, L.U. and Hemsworth, P.H. (2014). Effects of group housing after weaning on sow welfare and sexual behavior. *Journal of Animal Science*, 92(12):5683-5692. DOI: [10.2527/jas2014-8238](https://doi.org/10.2527/jas2014-8238)
- Rault, J-L., Hemsworth, P.H., Cakebread, P.L., Mellor, D.J. and Johnson, C.B. (2014). Evaluation of microwave energy as a humane stunning technique based on electroencephalography (EEG) of anaesthetised cattle. *Animal Welfare* 2014, 23: 391-400, doi: 10.1120/09627286.23.4.391
- Rault, J-L., Ferrari, J., Pluske, J.R. and Dunshea, F.R. (2015). Neonatal oxytocin administration and supplemental milk ameliorate the weaning transition and alter hormonal expression in the gastrointestinal tract in pigs. *Domestic Animal Endocrinology*, 51:19-26. DOI: [10.1016/j.domaniend.2014.11.001](https://doi.org/10.1016/j.domaniend.2014.11.001)
- Sherwen, S.L., Magrath, M.J.L., Butler, K.L., Phillips, C.J.C. and Hemsworth, P.H. (2014). A multi-enclosure study investigating the behavioural response of meerkats to zoo visitors. *Applied Animal Behaviour Science*, 156, 70-77

### Refereed Conference Publications

- Chiew, S., Hemsworth, P.H., Magrath, M. and Sherwen, S. (2014). The effect of zoo visitors on reptile behaviour. ISAE Regional Meeting, Sydney, p17
- Coleman, G.J., Roberts, L. and Rohlf, V. (2014). Benchmarking stockmanship for welfare assessment. Proceedings of the 6th International Conference on the Assessment of Animal Welfare at the Farm and Group Level (WAFL), France, p64
- Doyle, R.E., Primmer, T., Casey, R., Freire, R., Neilsen, S. and Mendl, M. (2014). Using judgment bias to assess positive affect in dogs. 48th Congress of the International Society for Applied Ethology (ISAE), Spain, p21
- Ficken, K., Jongman, E.C., Moss, D. and Magrath, M. (2014). Effects of change in management approach on elephant welfare at Melbourne Zoo. ISAE Regional Meeting, Sydney, p24
- Hartcher, K., Wilkinson, S., Hemsworth, P.H. and Cronin, G.J. (2014). The association between feather-eating and severe feather-pecking in free range laying hens. 48th Congress of the International Society for Applied Ethology (ISAE), Spain, p293
- Hartcher, K., Tran, M., Wilkinson, S.J., Hemsworth, P.H. and Cronin, G.M. (2014). The attractiveness of loose feathers to free-range laying hens exhibiting severe feather-pecking. Proceedings, Australian Poultry Science Symposium 25, p. 117
- Hemsworth, L. and Skuse, J. (2014). The development of practical measures to benchmark pig welfare in the Australian pork industry. Proceedings of the 6th International Conference on the Assessment of Animal Welfare at the Farm and Group Level (WAFL), France, p69
- Hemsworth, P.H. and Doyle, R.E. (2014). The effects of human-ruminant interactions on animal welfare and productivity in the tropics. 16th Asian-Australasian Association of Animal Production Societies, Yogyakarta, Indonesia, pp 73-83
- Holmes, R. (2014). Interpretation of clinical observations on the effect of backyard confinement on the behaviour and welfare of dogs. ISAE Regional Meeting, Sydney, p6
- Jongman, E.C. and Fisher, A.D. (2014). Effect of feeding frequency and total amount of milk replacer on young calves. 48th Congress of the International Society for Applied Ethology (ISAE), Spain, p269
- Larsen, H., Cronin, G., Hemsworth, P.H., Smith, C. and Rault, J-L. (2014). Behaviour of free-range laying hens in distinct outdoor environments. 48th Congress of the International Society for Applied Ethology (ISAE), Spain, p186
- Larsen, H. and Rault, J-L. (2014). Go outside and play? Behavioural time budget of free-range laying hens in a natural shrub structure. Proceedings, Australian Poultry Science Symposium 25, pp. 113-116
- Lee, C., Fisher, A.D., Colditz, I.G., Lea, J. and Ferguson, D.M. (2014). Assessment of cattle motivation for access to pasture or feedlot environments. 48th Congress of the International Society for Applied Ethology (ISAE), Spain, p95
- Ly, L., Larsen, H. and Rault, J-L. (2014). Should I stay or should I go? Ranging distance in free-range laying hens. ISAE Regional Meeting, Sydney, p28
- Oliva, J.L., Rault, J.L., Appleton, B. and Lill, A. (2014). Owner perceived closeness and owner perceived intelligence of dog can predict dog's performance on object choice task. 48th Congress of the International Society for Applied Ethology (ISAE), Spain, p120
- Rault, J-L. and Taylor, R. (2014). Nature of agonistic behaviours between sows mixed at different space allowances. 48th Congress of the International Society for Applied Ethology (ISAE), Spain, p189
- Rice, M., Ng, C. and Hemsworth, L. (2014). The assessment of animal welfare in pig research settings. Proceedings of the 6th International Conference on the Assessment of Animal Welfare at the Farm and Group Level (WAFL), France, p122
- Webb, C., Holmes, R. and Hemsworth, P.H. (2014) An investigation into the efficacy and welfare implications of associative learning in puppies using positive and negative conditioning. ISAE Regional Meeting, Sydney, p21
- Wormald, D., Lawrence, A., Carter, G. and Fisher, A.D. (2014). Validation of modified open field behaviour as a measure of trait anxiety in the dog. ISAE Regional Meeting, Sydney, p12

# Success for students

Dennis Wormald (PhD researcher, Faculty of Veterinary and Agricultural Sciences, University of Melbourne) has been awarded the RSPCA Alan White Scholarship, valued at \$8,364. The scholarship is available to students in Australian tertiary institutions for the funding of original research aimed at improving the welfare of animals in Australia through studying the assessment and key features of anxiety traits in dogs.



Peta Taylor (PhD researcher, Faculty of Veterinary and Agricultural Sciences, University of Melbourne) has been awarded a Rural Finance Scholarship, (The Ian Morton Memorial Scholarship), to assist with her RIRDC-supported project 'The behavior and welfare of broiler chickens in free-range systems'. The purpose of the project is to provide science-based evidence of the range use and the implications on welfare, behaviour and productivity to improve range use and effect and sustainability through management.



## AWSC Seminars - download, watch and listen ->go to.....

<http://www.animalwelfare.net.au/article/scientific-seminars>

Isabelle Veissier, INRA, France  
*Animal Welfare - Towards Transdisciplinarity*

Dan Weary, University of British Columbia  
*Cow comfort and lameness*  
*Farm size and animal welfare*  
*Understanding public views*

Andrew Fisher, AWSC, The University of Melbourne  
*Dairy cow welfare in new farm feeding systems*

Ellen Jongman, AWSC, The University of Melbourne  
*Feeding and transport of bobby calves*



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