Antonio Reverter (Toni) Researcher ID: C-9699-2013 **Curriculum Vitae** (Last update: July 2017)

PERSONAL DATA

Home Address:	22 Carissa Place Chapel Hill, Brisbane, Qld 4069, Australia Ph.: +61 7 3878 9251
Birth: Citizenship:	14 June 1966, Barcelona, Catalonia, Spain Dual Australian and Spanish
Languages:	Catalan (native), Spanish (excellent), English (proficient), French (regular), Italian (poor)
Hobbies:	Choir singing: Bass 1 at the Brisbane Chorale (<u>http://www.brisbanechorale.org.au</u>) Mountain biking

PROFFESSIONAL DATA

Present Position	Team Lu CSIRO Queensl 306 Car Ph: +61	Principal Research Scientist (CSOF8.2) eader: Computational and Systems Biology Agriculture & Food and Bioscience Precinct mody Rd., St. Lucia, QLD 4067, Australia 7 3214 2392 Mob: 0459 824 790 Cony.Reverter-Gomez@csiro.au
Tertiary Educat	ion: 1989 –	Bachelor of Veterinary Science Universitat Autónoma de Barcelona, Spain Concentration: Animal Production Supervisor: Prof. Jesús Piedrafita
	1994 –	Master of Science in Statistics Colorado State University, Fort Collins, CO, USA Concentration: Linear Models and Components of Variance Supervisor: Prof. Franklin A. Graybill Thesis: Confidence intervals for ratios of linear combinations of variance components
	1994 –	Doctor of Philosophy in Animal Science Colorado State University, Fort Collins, CO, USA Concentration: Quantitative Genetics Supervisor: Prof. Bruce L. Golden Thesis: Method R: A procedure for the estimation of variance and covariance components
Awards:	2010/2011 -	CSIRO Helen Newton Turner Award (\$35,000)
	2005 -	Eureka Prize for Bioinformatics Research (\$10,000) (http://www.amonline.net.au/eureka/2005/index.htm)
	2003 -	Best Talk at BioInfoSummer symposium (\$250) December 2003, Australian National University, Canberra. (http://wwwmaths.anu.edu.au/events/BioInfoSummer03/)
	1989–1994 –	INIA (Spain) – USDA (USA) PhD Scholarship

Editorial Appointments:1. BMC Genomics: Associate Editor 2010 – 20132. Journal of Animal Science: Associate Editor 2009 – 2014

Professional Affiliations:

Member and current President of the AAABG (Association for the Advancement of Animal Breeding and Genetics): www.aaabg2017.org

Reviews for:

1. Bioinformatics (Oxford University Press)	10. PLoS Genetics
2. Physiological Genomics	11 . Computational Statistics and Data Analysis
3 . BMC Genomics	12. Animal
4. BMC Bioinformatics	13. Heredity (Nature Publishing Group)
5. BMC Systems Biology	14. Genetics Selection Evolution
6. Genomics	15. Trends in Genetics
7. Journal of Animal Science	16. PLoS ONE
8. Australian Journal of Experimental Agriculture	17. Animal Genetics
9. Proc Nat Acad Sci, USA	

Work Experience: (prior to joining CSIRO)

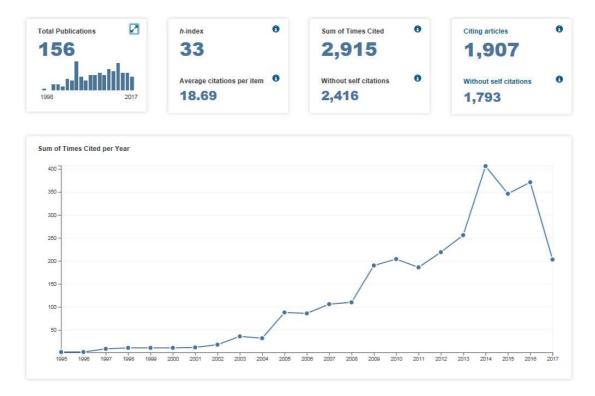
Nov. 1995 – Sep. 2002	From Research Scientist to Senior Research Scientist Animal Genetics and Breeding Unit (AGBU) University of New England Armidale, NSW 2351, Australia
July 1995 – Nov. 1995	Research Scientist (casual, awaiting Australian Immigration visa) Veterinary School, Universitat Autónoma de Barcelona 08193 Bellaterra, Barcelona, Spain
Oct. 1994 – June 1995	Post-Doctoral Fellow Servicio de Producción Agraria 06001 Badajoz, Spain

Post-Doctoral Fellows Supervised:

1. Dr. Nick Hudson:	Period: 2006 – 2007 Present position: Senior Lecturer, University of Queensland		
2. <u>Dr. Eva KF Chan:</u>		2006 – 2008 position: Garvan Institute of Medical Research, Sydney.	
3. <u>Dr. Shivashankar H Na</u>	<u>garaj:</u>	Period: 2009 – 2011 Present position: Queensland University of Technology.	
4. Dr. Laercio Porto-Neto	<u>:</u>	Period: 2013 – 2016 Present position: Research Scientist, CSIRO.	
5. <u>Dr. Parthan Kasarapu</u> :		Period: 2016 – 2017 Present position: Deloitte Australia	
6. Dr. Fernanda Raidan:		Period: 2017 – Present.	

RESEARCH PROJECT GRANTS

Project title (Funding Body)	Investigators: Principal	\$ '000	Years
	investigator (PI) and key		
	participants		
Developing new methods to determine	Toni Reverter (PI), Nick Hudson	230	2013-2014
genomic relationships for improved			
breeding (MLA: B.BSC.0344)			
Optimising genomic predictions of	Toni Reverter (PI), Yutao Li,	258	2014-2016
broiler chicken feed efficiency (Cobb-	Andrew George, Sigrid Lehnert		
Vantress Inc.)			
Poultry feed efficiency genomics	Toni Reverter (PI), Nick Hudson,	540	2013-2014
(Cobb-Vantress Inc.)	Sigrid Lehnert		
Low density SNP panels for poultry	Toni Reverter (PI), Yutao Li,	750	2015-2017
breeding (Cobb-Vantress Inc.)	Sigrid Lehnert, Andrew George		
Postdoctoral Fellowship in	Toni Reverter (PI), Fernanda	230	2017-2019
Quantitative Genetics & Genomics -	Raidan		
Tropical Livestock (CSIRO Science			
Excellence Research Office)			
Postdoctoral Fellowship in Genomic	Toni Reverter (PI), Parthan	345	2016-2019
analytics in the realm of Big Data	Kasarapu		
(CSIRO Science Excellence Research			
Office)			
A Multi-Species Genomic Prediction	Toni Reverter (PI), Klara Verbyla	115	2017-2018
Platform (CSIRO Genome to			
Phenome Science Platform)			
Breeding Optimal Queensland beef	Sigrid Lehnert (PI), Laercio Porto-	1,483	2015-2017
cattle (Qld government Accelerate	Neto, Toni Reverter		
Partnerships program)			
Zoetis CattleCall (Zoetis)	Marina Fortes (PI), Toni Reverter,	100	2015-2017
	Bill Barendse, Sigrid Lehnert		
Genome-wide association study of	Sigrid Lehnert (PI), Marina Fortes,	140	2011-2012
tropical composite bulls for	Toni Reverter		
reproduction traits (MLA:			
B.NBP.0723)			
Genomics for Beef Herd Productivity	Sigrid Lehnert (PI), John Henshall,	1,500	2011-2014
(Qld government SmartFutures	Toni Reverter, Steve Moore,		
partnerships program)	Russell Lyons		
More Beef, Less Feed (Qld	Laercio Porto-Neto (PI), Toni	1,340	2017-2019
government Advance Queensland	Reverter, Russell Lyons, Ben		
partnership program and NAPCO)	Hayes		



PUBLICATIONS



Patents

W. Barendse and **A. Reverter** (2007) A method for assessing traits selected from longissimus dorsi peak force, intramuscular fat, retail beef yield and net feed intake in bovine animals. WO/2007/012119 (http://www.wipo.int/pctdb/en/wo.jsp?LANGUAGE=ENG&KEY=07/012119&ELEMENT_SET=F).

Book chapters

A. Reverter and M.R.S. Fortes (2013) Association Weight Matrix: A Network-Based Approach Towards Functional Genome-Wide Association Studies. In *Genome-Wide Association Studies and Genomic Prediction. Methods in Molecular Biology*. Vol. 1019, pp. 437-444 (http://link.springer.com/protocol/10.1007%2F978-1-62703-447-0_20).

K. Prayaga and **A. Reverter** (2007) Precision animal breeding. In *Redesigning Animal Agriculture: The Challenge of the 21st Century*. CABI, Nosworthy Way, Wallingford, Oxon OX10 8DE, UK (ISBN: 9781845932237).

Currently under review

 M Naval-Sanchez, Q Nguyen, S McWilliam, LR Porto-Neto, R Tellam, T Vuocolo, A Reverter, M Perez-Enciso, R Brauning, S Clarke, A McCulloch, W Zamani, S Naderi, H Reza-Rezaei, F Pompanon, P Taberlet, KC Worley, N Cockett, H Daetwyler and J Kijas (2017) Functional annotation of the sheep genome reveals proximal gene regulatory elements contributed to the evolution of modern breeds. Nature Communications (under review).

Published in Peer-Reviewed Journals

- 1. NJ Hudson, WG Bottje, RJ Hawken, BW Kong, R Okimoto and A **Reverter** (2017) Mitochondrial metabolism: a key driver of energy utilisation and product quality? Animal Production Science (in press).
- P Kasarapu, LR Porto-Neto, MRS Fortes, SA Lehnert, MA Mudadu, L Coutinho, L Regitano, A George and A Reverter (2017) The *Bos taurus-Bos indicus* balance in fertility and milk related genes. PLoS ONE (in press).
- 3. **A Reverter**, LR Porto-Neto, MRS Fortes, P Kasarapu, MAR de Cara, HM Burrow and SA Lehnert (2017) Genomic inbreeding depression for climatic adaptation of tropical cattle. J Anim Sci (in press).
- 4. O Mendoza-Porras, JO Harris, G Wijffels, **A Reverter**, MT Cook, NA Botwright and ML Colgrave (2017) Gonadal reproductive and metabolic proteins of male abalone *Haliotis laevigata* (Donovan, 1808) assessed by targeted mass spectrometry after artificial induction of spawning. Aquaculture Research (in press)
- WG Bottje, K Lassiter, A Piekarski-Welsher, S Dridi, A Reverter, NJ Hudson and B-W Kong (2017) Proteogenomics reveals enriched ribosome assembly and protein translation in *Pectoralis major* of high feed efficiency pedigree broiler males. Frontiers in Physiology 8:306.
- 6. J Leno-Colorado, NJ Hudson, **A Reverter** and M Pérez-Enciso (2017) A pathway-centered analysis of pig domestication and breeding in Eurasia. G3 Genes Genomes Genetics (in press; https://doi.org/10.1534/g3.117.042671).
- 7. NJ Hudson, RJ Hawken, R Okimoto, RL Sapp, and A **Reverter**. (2017) Data compression can discriminate broilers by selection line, detect haplotypes and estimate genetic potential for complex phenotypes. Poultry Sci (in press)
- 8. LT Nguyen, **A Reverter**, A Cánovas, B Venus, A Islas-Trejo, LR Porto-Neto, SA Lehnert, JF Medrano, SS Moore and MRS Fortes (2017) Global differential gene expression in the pituitary gland and the ovaries of pre- and post-puberty Brahman heifers. J. Anim. Sci. 95:599-615.
- W Bottje, B-W Kong, A Reverter, A Waardenberg, K Lassiter, N Hudson (2017) Progesterone signalling in broiler skeletal muscle is associated with divergent feed efficiency. BMC Syst Biol. 11:29.
- 10. **A Reverter**, Okimoto R, Sapp R, Bottje WG, Hawken R, Hudson NJ. (2017) Chicken muscle mitochondrial content appears co-ordinately regulated and is associated with performance phenotypes. Biol. Open. 6:50-58.
- 11. M Pérez-Enciso, G de los Campos, N Hudson, J Kijas and **A Reverter** (2017) The 'heritability' of domestication and its functional partitioning in the pig. Heredity 118:160-168.
- Y Li, R Hawken, R Sapp, A George, SA Lehnert, JM Henshall and A Reverter (2017) Evaluation of non-additive genetic variation in feed-related traits of broiler chickens. Poultry Sci. 96:754-763.
- A Reverter, LR Porto-Neto, MRS Fortes, R McCulloch, RE Lyons, S Moore, D Nicol, J Henshall and SA Lehnert (2016) Genomic analyses of tropical beef cattle fertility based on genotyping pools of Brahman cows with unknown pedigree. J Anim Sci 94:4096-4108.
- MRS Fortes, LT Nguyen, MMDCA Weller, A Cánovas, A Islas-Trejo, LR Porto-Neto, A Reverter, SA Lehnert, GB Boe-Hansen, MG Thomas, JF Medrano, SS Moore (2016) Transcriptome analyses identify five transcription factors differentially expressed in the hypothalamus of post-versus pre- pubertal Brahman heifers. J Anim Sci 94:3693-3702.
- B Kong, K Lassiter, A Piekarski, S Dridi, A Reverter, N Hudson and W. Bottje (2016) Proteomics of breast muscle tissue associated with the phenotypic expression of feed efficiency within pedigree male broiler line: I. Highlight on mitochondrial role. PLoS ONE 11:e0159897.
- 16. O Mendoza-Porras, NA Botwright, A Reverter, MT cook, JO Harris, G Wijffels and ML Colgrave (2016) Identification of differentially expressed reproductive and metabolic proteins in the female abalone (Haliotis laevigata) gonad following artificial induction of spawning. Comparative Biochemistry and Physiology Part D: Genomics and Proteomics (DOI: 10.1016/j.cbd.2016.04.005).

- 17. KL Weber, BT Welly, AL Van Eenennaam, AE Young, LR Porto-Neto, **A Reverter** and G Rincón (2016) Identification of gene networks for residual feed intake in Angus cattle using genomic prediction and RNA-Seq. PLoS ONE 11:e0152274.
- 18. MA Mudadu, LR Porto-Neto, FB Mokry, PC Tizioto, PSN Oliveira, RR Tullio, RT Nassu, SCM Niciura, P Tholon, MM Alencar, RH Higa, AN Rosa, GLD Feijo, ALJ Ferraz, LOC Silva, SR Medeiros, DP Lanna, ML Nascimento, AS Chaves, ARD Chaves, IU Packer, RAA Torres Jr., F Siqueira, GB Mourao, LL Coutinho, A Reverter, LCA Regitano (2016) Genomic structure and marker-derived gene networks for growth and meat quality traits of Brazilian Nelore beef cattle. BMC Genomics 17:235.
- MRS Fortes, LT Nguyen, LR Porto-Neto, A Reverter, SS Moore, SA Lehnert and M Thomas (2016) Polymorphisms and genes associated with puberty in heifers. Theriogenology (in press; DOI: 10.1016/j.theriogenology.2016.04.046).
- 20. JM Kim, D Ren, A **Reverter** and E Roura (2016) A regulatory gene network related to the porcine umami taste receptor (*Tas1r1/Tas1r3*). Anim. Genet. 47:114-119.
- LR Porto-Neto, W Barendse, JM Henshall, SM McWilliam, SA Lehnert and A Reverter (2015) Genomic correlation: harnessing the benefit of combining two unrelated populations for genomic selection. Genetic Selection Evolution 47:84.
- 22. BE Huang, **A Reverter**, I Purvis and S Chapman (2015) Meeting report on the challenge of inference from genome to phenome. G3 Genes Genomes Genetics 5:1945-1947
- 23. N Hudson, LR Porto-Neto, J Kijas and A Reverter (2015) Compression distance can discriminate animals by genetic profile, build relationship matrices and estimate breeding values. Genetic Selection Evolution, 47:78.
- GMF de Camargo, RR Aspilcueta-Borquis, MRS Fortes, LR Porto-Neto, DF Cardoso, SA Lehnert, A Reverter, SS Moore and H Tonhati (2015) Prospecting major genes in dairy buffaloes. BMC Genomics 16:872.
- 25. LR Porto-Neto, S Edwards, MRS Fortes, SA Lehnert, A **Reverter** and M McGowan (2015) Genome wide association for the outcome of fixed time artificial insemination of Brahman heifers in northern Australia. J. Anim. Sci. 93:5119-5127.
- 26. P Widmann, A Reverter, R Weikard, K Suhre, H Hammon, E Albrecht and C Kuehn (2015) Systems biology analysis merging phenotype, metabolomic and genomic data identifies Non-SMC Condensin I Complex, Subunit G (NCAPG) and cellular maintenance processes as major contributors to genetic variability in bovine feed efficiency. PLoS ONE 10:e0124574.
- 27. S Bolormaa, JE Pryce, Y Zhang, **A Reverter**, W Barendse, BJ Hayes and ME Goddard (2015) Non-additive genetic variation in growth, carcass and fertility traits of beef cattle. Genetic Selection Evolution 47:26.
- GMF de Camargo, LR Porto-Neto, MRS Fortes, RJ Bunch, H Tonhati, A Reverter, SS Moore and SA Lehnert (2015) Low frequency Y anomaly detected in Australian Brahman cow-herds. Meta Gene 3:59-61 (<u>http://www.sciencedirect.com/science/article/pii/S221454001500002X</u>).
- 29. NJ Hudson, A **Reverter**, PL Greenwood, B Guo, LM Cafe and BP Dalrymple (2015) Longitudinal muscle gene expression patterns associated with differential intramuscular fat in cattle. Animal 9:550-559.
- EC da Silva, N de Jager, W Burgos-Paz, A Reverter, M Perez-Enciso and E Roura (2014) Characterization of the porcine nutrient and taste receptor gene repertoire in domestic and wild populations across the globe. BMC Genomics 15:1057.
- 31. L Porto-Neto, A Reverter, KC Prayaga, EKF Chan, DJ Johnston, RJ Hawken, G Fordyce, J Fernando García, TS Sonstegard, S Bolormaa, ME Goddard, HM burrow, JM Henshall, SA Lehnert and W Barendse (2014) The genetic architecture of climate adaptation of tropical cattle. PLoS ONE 9:e113284.
- 32. NJ Hudson, ML Baker, NS Hart, JW Wynne, Q gu, Z Huang, G Zhang, AB Ingham, L Wang and **A Reverter** (2014) Sensory rewiring in an echolocator: Genome-wide modification of retinogenic and auditory genes in the bat Myotis davidii. G3 Genes Genomes Genetics 4:1825-1835.

- A Cánovas, A Reverter, KL DeAtley, RL Ashley, ML Colgrave, MRS Fortes, A Islas-Trejo, SA Lehnert, L Porto-Neto, G Rincón, GA Silver, WM Snelling, JF Medrano, MG Thomas (2014) Multi-tissue omics analyses reveal molecular regulatory networks for puberty in composite cattle. PLoS ONE 9:e102551.
- 34. MRS Fortes, AHMS Suhaimi, L Porto-Neto, SM McWilliam, T Flatscher-Bader, SS Moore, MJ D'Occhio, CT Meira, MG Thomas, WM Snelling, A Reverter and SA Lehnert (2014) Post-partum anoestrus in tropical beef cattle: a systems approach combining gene expression and genome-wide association results. Livestock Science 166:158-166.
- 35. JW Kijas, L Porto-Neto, S Dominik, **A Reverter**, R bunch, R McCulloch, BJ Hayes, R Brauning, J McEwan and the International Sheep Genomics Consortium (2014) Linkage disequilibrium over short physical distances measured in sheep using a high-density SNP chip. Anim Genet. 45:754-757.
- 36. Y Ramayo-Caldas, MRS Fortes, NJ Hudson, LR Porto-Neto, S Bolormaa, W Barendse, M Kelly, SS Moore, ME Goddard, SA Lehnert and A Reverter (2014) A marker-derived gene network reveals the regulatory role of PPARGC1A, HNF4G and FOXP3 in intramuscular fast deposition in beef cattle. J Anim Sci 92:2832-2845.
- LR Porto-Neto, MRS Fortes, SM McWilliam, SA Lehnert and A Reverter (2014) Variation in genes involved in epigenetic processes offers insights into tropically adapted cattle diversity. Frontiers in Genetics (section Livestock Genomics) 5:89.
- 38. Y Ramayo-Caldas, M Ballester, MRS Fortes, A Esteve-Codina, A Castelló, JL Noguera, AI Fernández, M Pérez-Enciso, A Reverter and JM Folch (2014) From SNP co-association to RNA co-expression: Novel insights into gene networks for intramuscular fatty acid composition in porcine. BMC Genomics 15:232.
- 39. PB Madhamshettiwar, SR Maetschke, MJ Davis, **A Reverter** and MA Ragan (2014) INsPeCT: Integrative Platform for Cancer Transcriptomics. Cancer Informatics 13:59-66.
- 40. LR Porto-Neto, JW Kijas and A **Reverter** (2014) The extent of linkage disequilibrium in beef cattle breeds using high-density SNP genotypes. Genetic Selection Evolution 46:22.
- 41. NJ Hudson, LR Porto-Neto, J Kijas, S McWilliam, RJ Taft and A **Reverter** (2014) Information compression exploits patterns of genome composition to discriminate populations and highlights regions of evolutionary interest. BMC Bioinformatics 15:66.
- 42. **A Reverter**, JM Henshall, R McCulloch, S Sasazaki, R Hawken and SA Lehnert (2014) Numerical analysis of intensity signals resulting from genotyping pooled DNA samples in beef cattle and broiler chicken. J Anim Sci 92:1874-1885.
- 43. AB Ingham, SA Osborne, M Menzies, S Briscoe, W Chen, K Kongsuwan, A Reverter, A Jeanes, BP Dalrymple, G Wijffels, R Seymour and NJ Hudson (2014) RNF14 is a regulator of mitochondrial and immune function in muscle. BMC Systems Biology 8:10.
- 44. S Bolormaa, JE Pryce, A **Reverter**, Y Zhang, W Barendse, K Kemper, B Tier, K Savin, BJ Hayes and ME Goddard (2014) A multi-trait, meta-analysis for detecting pleiotropic polymorphisms for stature, fatness and reproduction in beef cattle. PLoS Genetics 10(3): e1004198.
- 45. P Widmann, **A Reverter**, MRS Fortes, R Weikard, K Suhre, H Hammon, E Albrecht and C Kuehn (2013) A systems biology approach using metabolomic data reveals genes and pathways interacting to modulate divergent growth in cattle. BMC Genomics 14:798.
- 46. S Bolormaa, JE Pryce, KE Kemper, BJ Hayes, Y Zhang, B Tier, W Barendse, **A Reverter** and ME Goddard (2013) Detection of quantitative trait loci in *Bos indicus* and *Bos taurus* cattle using genome-wide association studies. Genetic, Selection, Evolution 45:43.
- 47. MRS Fortes, KL DeAtley, SA Lehnert, BM Burns, A Reverter, RJ Hawken, G Boe-Hansen, S Moore and MG Thomas (2013) Genomic regions associated with fertility traits in male and female cattle: Advances from microsatellites to high-density chips and beyond. Animal Reproduction Science 141:1-19.

- 48. MRS Fortes, **A Reverter**, M Kelly, R McCulloch and SA Lehnert (2013) Genome-wide association study for inhibin, luteinizing hormone, insulin-like growth factor 1, testicular size and semen traits in bovine species. Andrology 1:644-650.
- 49. S Bolormaa, JE Pryce, K Kemper, K Savin, BJ Hayes, W Barendse, Y Zhang, CM Reich, BA Mason, RJ Bunch, BE Harrison, A Reverter, RM Herd, B Tier, HU Graser and ME Goddard (2013) Accuracy of prediction of genomic breeding values for residual feed intake, carcass and meat quality traits in *Bos taurus*, *Bos indicus* and composite beef cattle. J. Anim. Sci. 91:3088-3104.
- MRS Fortes, S Sasazaki, K Kemper, A Reverter, JE Pryce, W Barendse, R Bunch, R McCullock, B Harrison, S Bolormaa, YD Zhang, RJ Hawken, ME Goddard and SA Lehnert (2013) Evidence for pleiotropism and recent selection in the PLAG1 region in Australian beef cattle. Animal Genetics 44:636-647.
- NJ Hudson, RE Lyons, A Reverter, PL Greenwood and BP Dalrymple (2013) Inferring the in vivo cellular program of developing bovine skeletal muscle from expression data. Gene Expression Patterns 13:109-125.
- N De Jager, NJ Hudson, A Reverter, R Barnard, LM Cafe, PL Greenwood and BP Dalrymple (2013) Gene-expression phenotypes for lipid metabolism and intramuscular fat in skeletal muscle of cattle. J. Anim. Sci. 91:1112-1128.
- A Reverter and MRS Fortes (2013) Building single nucleotide polymorphism-derived gene regulatory networks: Towards functional genome-wide association studies. J Anim Sci 91:530-536.
- 54. WM Snelling, RA Cushman, JW Keele, C Maltecca, MG Thomas, MRS Fortes and A **Reverter** (2013) Networks and pathways to guide genomic selection. J Anim Sci 91:537-552.
- 55. W Sun, NJ Hudson, **A Reverter**, AJ Waardenberg, RL Tellam, T Vuocolo, K Byrne and BP Dalrymple (2012) An always correlated gene expression landscape for ovine skeletal muscle, lessons learnt from comparisons with an "equivalent" bovine landscape. BMC Research Notes 5:632.
- D Pérez-Montarelo, NJ Hudson, AI Fernández, Y Ramayo-Caldas, BP Dalrymple and A Reverter (2012) Porcine tissue-specific regulatory networks derived from meta-analysis of the transcriptome. PLoS ONE 7:e46159.
- 57. NJ Hudson, BP Dalrymple and **A Reverter** (2012) Beyond differential expression: The quest for causal mutations and effector molecules. BMC Genomics 13:356.
- MRS Fortes, A Reverter, RJ Hawken, S. Bolormaa and SA Lehnert (2012) Candidate Genes Associated with Hormone Levels of Inhibin, Luteinising Hormone, and Insulin-Like Growth Factor 1, Testicular Development and Sperm Quality in Brahman Bulls. Biology of Reproduction 87:58.
- 59. MRS Fortes, WM Snelling, A Reverter, SH Nagaraj, S Lehnert, RJ Hawken, KL DeAtley, SO Peters, GA Silver, G Rincon, JF Medrano, A Islas-Trejo and MG Thomas (2012) Gene network analyses of first service conception in Brangus heifers: use of genome and trait associations, hypothalamic-transcriptome information, and transcription factors. J Anim Sci 90:2894-2906.
- 60. MRS Fortes, RG Holroyd, A **Reverter**, BK Venus, N Satake and GB Boe-Hansen (2012) The integrity of sperm chromatin in young tropical composite bulls. Theriogenology 78:326-333.
- 61. MRS Fortes, SA Lehnert, S Bolormaa, C Reich, G Fordyce, NJ Fordyce, NJ Corbet, V Whan, RJ Hawken and **A Reverter** (2012) Finding genes for economically important traits: Brahman cattle puberty. Animal Production Science 52:143-150.
- 62. PB Madhamshettiwar, SR Maetschke, MJ Davis, **A Reverter** and MA Ragan (2012) Gene regulatory network inference: Evaluation and application to ovarian cancer allows the prioritization of drug targets. Genome Medicine 4:41.
- 63. N Moreno-Sánchez, J Rueda, A **Reverter**, MJ Carabaño and C Díaz (2012) Muscle-specific gene expression is underscored by differential stressor responses and coexpression changes. Functional and Integrative Genomics 12:93-103.

- 64. SH Nagaraj, HC Harsha, **A Reverter**, N Andronicos, P Hunt, M Colgrave, M Menzies, M Lees, R Sharma, A Pandey and A Ingham. (2012) Proteomic analysis of the abomasal mucosal response following infection by the nematode, Haemonchus contortus, in genetically resistant and susceptible sheep. Journal of Proteomics 75:2141-2152.
- 65. RJ Hawken, YD Zhang, MRS Fortes, E Collis, WC Barris, NJ Corbet, PJ Williams, G Fordyce, RG Holroyd, JRW Walkley, W Barendse, DJ Johnston, KC Prayaga, B Tier, A Reverter and SA Lehnert (2012) Genome-wide association studies of female reproduction in tropically adapted beef cattle. J. Anim. Sci. 90:1398-1410.
- 66. WM Snelling, RA Cushman, MRS Fortes, A Reverter, GL Bennett, JW Keele, LA Kuehn, TG McDaneld, RM Thallman and MG Thomas (2012) How single nucleotide polymorphism chips will advance our knowledge of factors controlling puberty and aid in selecting replacement beef females. J Anim Sci 90:1152-1165.
- 67. NJ Hudson, Q Gu, SH Nagaraj, Y-S Ding, BP Dalrymple and A **Reverter** (2011) Eukaryotic evolutionary transitions are associated with extreme codon bias in functionally-related proteins. PLoS ONE 6(9):e25457.
- 68. E García-Gámez, A **Reverter**, D Turner, V Whan, SM McWilliam, JJ Arranz, International Sheep Genomics Consortium, and J Kijas (2011) Using Regulatory and Epistatic Networks to Extend the Findings of a Genome Scan: Identifying the Gene Drivers of Pigmentation in Merino Sheep. PLoS ONE 6(6):e21158.
- 69. A Ingham, M Menzies, P Hunt, **A Reverter**, R Windon and N Andronicos (2011) Divergent ghrelin expression patterns in sheep genetically resistant or susceptible to gastrointestinal nematodes. Veterinary Parasitology 181:194-202.
- 70. N de Jager, NJ Hudson, **A Reverter**, YH Wang, SH. Nagaraj, LM Cafe, PL Greenwood, R Barnard, K Kongsuwan and BP Dalrymple (2011) Chronic exposure to anabolic steroids induces the muscle expression of oxytocin and a more than fifty fold increase in circulating oxytocin in cattle. Physiological Genomics 43(9):467-78.
- 71. SH Nagaraj and A **Reverter** (2011) A Boolean-based systems biology approach to predict novel genes associated with cancer: Application to colorectal cancer. BMC Systems Biology, 5:35.
- 72. MRS Fortes, A **Reverter**, SH Nagaraj, Y Zhang, NN Jonsson, W Barris, GB Boe-Hansen and RJ Hawken (2011) A SNP-derived regulatory gene network underlying puberty in two tropical breeds of beef cattle. J Anim Sci 89:1669-1683.
- 73. S Bolormaa, BJ Hayes, RJ Hawken, Y Zhang, A **Reverter** and ME Goddard (2011) Detection of chromosome segments of zebu and taurine origin and their effect on beef production and growth. J Anim Sci. 89:2050-2060.
- 74. Q Gu, S H Nagaraj, N J Hudson, B P Dalrymple and **A Reverter** (2011) Genome-wide patterns of promoter sharing and co-expression in bovine skeletal muscle. BMC Genomics 12:23.
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- 41. E.K.F. Chan and **A. Reverter** (2007) Integrating whole-genome genetic association studies with gene expression data to prioritise candidate genes affecting intramuscular fat in beef cattle traits. Proc. Assoc. Advmt. Anim. Breed. Genet. 17:81-84.
- 42. **A. Reverter**, W. Barris, E.K.F. Chan, R. Hawken, W. Barendse and B. Dalrymple (2007) SNPaway: a SNP pruner for association studies based on a bootstrap forward regression approach. Proc. Assoc. Advmt. Anim. Breed. Genet. 17:284-287.
- 43. **A. Reverter** and B.P. Dalrymple (2006) Reversed engineering of gene networks for Bovine skeletal muscle: development and applications. Proc. 8th World Congr. Genet. Appl. Livest. Prod. (Invited).
- 44. G.-P. Xue, C.L. McIntyre, N.I. Bower, H. Way, **A. Reverter**, S. Chapman, B. Clarke and R. Shorter (2006) Differential gene expression between wheat genotypes contrasting in transpiration efficiency. Plant & Animal Genomes XIV Conference, Jan 14-18, San Diego,CA (http://www.intl-pag.org/14/abstracts/PAG14_P758.html).
- 45. S.M. McWilliam, S.A. Lehnert and A. Reverter (2005) Annotation analysis of a bovine cDNA microarray for expression profiling of muscle and adipose tissue. Proc. Assoc. Advmt. Anim. Breed. Genet. 16:393-396.
- 46. A. Reverter, Y.H. Wang, K.A. Byrne, S.A. Lehnert, and B.P. Dalrymple (2003) Intensities versus intensity ratios in the analysis of cDNA microarray data. Proc. Assoc. Advmt. Anim. Breed. Genet. 15:86-89
- 47. **A. Reverter**, K.A. Byrne, and B.P. Dalrymple (2003) BAYESMIX: A software program for Bayesian analysis of mixture models with an application to model-based clustering of microarray gene expression data. Proc. Assoc. Advmt. Anim. Breed. Genet. 15:90-93
- 48. **A. Reverter**, D.J. Johnston and H.-U. Graser (2003) First experiences with an across country genetic evaluation system for beef cattle. Proc. 33rd Biennial Session of ICAR, EAAP publication No. 107:139-145.
- 49. J.A. Archer, A. Reverter, R.M. Herd, D.J. Johnston, and P.F. Arthur (2002) Genetic variation in feed intake and efficiency of mature beef cows and relationships with postweaning measurements. Proc. 7th World Congr. Genet. Appl. Livest. Prod. Communication No. 10-07
- D.J. Brown and A. Reverter (2002) The use of weaning weight to adjust for pre-weaning environmental effects on bodyweight, fleece weight and fibre diameter in merino hoggets. Proc. 7th World Congr. Genet. Appl. Livest. Prod. Communication No. 12-05
- 51. **A. Reverter** and B. Tier (2002) Inference on genotype probability based on polygenic estimated breeding values. Proc. 7th World Congr. Genet. Appl. Livest. Prod. Communication No. 22-19

- 52. D.J. Brown, B. Tier, A. Reverter, A. Ball, and R. Banks (2001) Genetic parameters for liveweight, wool growth and litter size and the associations among these traits in Corriedale sheep. Proc. Assoc. Advmt. Anim. Breed. Genet. 14:119-122
- 53. D.J. Brown, **A. Reverter**, and B. Tier (2001) Influence of environmental factors and trait representation on the genetic evaluation of reproductive traits in sheep. Proc. Assoc. Advmt. Anim. Breed. Genet. 14:131-134
- 54. **A. Reverter** and D.J. Johnston (2001) Genetic parameter estimates for weight of bones in beef cattle. Proc. Assoc. Advmt. Anim. Breed. Genet. 14:155-158
- A. Reverter and D.J. Johnston (2001) Genetic analyses of live-animal ultrasound and abattoir carcase traits in Angus and Hereford cattle. Proc. Assoc. Advmt. Anim. Breed. Genet. 14:159-162
- 56. D.J. Johnston, R. Herd, A. Reverter, and V.H. Oddy (2001) Heritability of IGF-I in beef cattle and its association with growth and carcase traits. Proc. Assoc. Advmt. Anim. Breed. Genet. 14:163-166
- A. Reverter, D. Brown, and B. Tier (2001) PARITIES: A software program to simulate number of individuals born for multiparous species. Proc. Assoc. Advmt. Anim. Breed. Genet. 14:389-392
- 58. **A. Reverter**, D.J. Johnston, H.-U. Graser, and D. Perry (2001) Predition of retail beef yield percent from a number of wholesale primal cuts for use in genetic evaluation. Proc. Assoc. Advmt. Anim. Breed. Genet. 14:469-472
- 59. **A. Reverter**, E. Farrell, and C. Hutchinson (2001) A web interface for the Beef CRC database. Proc. Assoc. Advmt. Anim. Breed. Genet. 14:485-488
- 60. D.J. Johnston, A. Reverter, J.M. Thompson, and D. Perry (1999) Genetic and phenotypic relationships between four methods of assessing intramuscular fat in beef carcases. Proc. Assoc. Advmt. Anim. Breed. Genet. 13:345-348
- 61. D.J. Johnston, A. Reverter, D. Perry, J.M. Thompson, and R.W. Dicker (1999) Early results of the genetic relationship between postweaning growth and carcase intramuscular fat in steers. Proc. Assoc. Advmt. Anim. Breed. Genet. 13:349-352
- A. Reverter (1999) Confidence regions for genetic parameters of ultrasound scans and actual carcass measurements of intramuscular fat. Proc. Assoc. Advmt. Anim. Breed. Genet. 13:377-380
- 63. **A. Reverter**, D.J. Johnston, E. Stephens, and D. Perry (1999) Development of a prediction equation for retail beef yield percent to be used in national genetic evaluation schemes. Proc. Assoc. Advmt. Anim. Breed. Genet. 13:381-384
- 64. H.-U. Graser, **A. Reverter**, W. Upton, K. Donoghue, and D.E. Wilson (1998) Use of real-time ultrasound measurements of fat thickness and percent intramuscular fat for the Angus breed in Australia. Proc. 6th World Congr. Genet. Appl. Livest. Prod. 23:69-72
- C.J. Kaiser, M.E. Goddard, and A. Reverter (1998) Analysis of gametic imprinting effects for test day milk yield in Australian Holstein cattle. Proc. 6th World Congr. Genet. Appl. Livest. Prod. 23:355-358
- 66. **A. Reverter** (1998) Empirical evidence of the optimality of Method R estimates. Proc. 6th World Congr. Genet. Appl. Livest. Prod. 25:533-536
- 67. M.R. Pujol, J. Piedrafita, R. Quintanilla, **A. Reverter**, and J. Tibau (1998) Accounting for heterogeneous variances across herds for swine production traits using a multiplicative mixed model. Proc. 6th World Congr. Genet. Appl. Livest. Prod. 25:645-648
- 68. **A. Reverter** and B. Tier (1997) The role of different replacement regimes on the occurence of inbreeding in subsequent generations. Proc. Assoc. Advmt. Anim. Breed. Genet. 12:113-116
- J.W. Skerrit, A. Reverter, C.J. Kaiser, and B. Tier (1997) Genetic parameter estimates for wool follicle traits are similar in selected and random bred populations. Proc. Assoc. Advmt. Anim. Breed. Genet. 12:163-166

70. **A. Reverter** and B. Tier (1997) How bootstrapping can optimise subsampling when estimating genetic parameters by Method R. Proc. Assoc. Advmt. Anim. Breed. Genet. 12:543-546

SERVICE TO SCIENTIFIC COMMUNITY

Invited seminars and conference talks:

- July 2017: Invited plenary speaker at the 36th International Society of Animal Genetics (ISAG) Conference in Dublin, Ireland, from July 16th to 21th 2017 at the O'Brien Centre for Science in University College Dublin (<u>www.isag2017.org</u>). Talk title: "GBLUPs Me, GBLUPs Me Not: Marrying Molecular Biology and Statistical Genomics."
- 2. <u>April 2017</u>: Invited plenary speaker at the 1st Workshop on Omics Strategies Applied to Livestock Science. 24 26 April 2017. Piracicaba, Sao Paolo, Brazil.
- 3. <u>July 2016</u>: Invited speaker at the 2016 Joint Annual Meeting (JAM) in Salt Lake City, Utah, July 19-23. Talk title: "Objective-Oriented Genomic Relationship Matrices".
- 4. <u>June 2016</u>: Invited speaker at the 1st International Meeting of Advances in Animal Sciences. 8-10 June 2016, Ribeirao Preto, Sao Paulo, Brazil. Talk title: "Gene network inference applied to beef cattle breeding & genetics".
- 5. <u>October 2015</u>: Invited speaker at the 12th International Symposium on Milk Genomics & Human Health. 26-28 October 2015, Amora Hotel Jamison, Sydney.
- 6. <u>July 2014</u>: Invited speaker at the 2014 EMBL Australia PhD Course. Australian National University, Canberra. Talk title: "Beyond differential expression: The quest for causal mutations and gene network inference". (http://www.emblaustralia.org/students/courses/PhDCourse.aspx).
- May 2014: Invited speaker at the 2014 National Poultry Breeders Roundtable. St Louis, Missouri, USA (Program at: https://www.uspoultry.org/educationprograms/seminarprez/2014NBR/agenda.pdf).
- 8. <u>January 2014</u>: Invited speaker at the 2014 Plant and Animal Genome conference. San Diego, California, USA. Talk title: "Gene networks from multiple sources of molecular data: Application to livestock species".
- 9. <u>July 2013</u>: Invited speaker at the Wheat Breeding Assembly, 16-19 July 2013, Brisbane. Talk title: "The role of advance genetic techniques in genetic improvement: Lessons from livestock".
- 10. <u>February 2013:</u> Invited speaker at the Gordon Research Conference in Quantitative Genetics and Genomics. 17-22 February, 2013, Galveston, Texas, USA.
- 11. <u>December 2012</u>: Invited talk at the CSIRO OCE Cutting Edge Symposium: Integrating Systems Biology and Network Science with the Rich Data of the CSIRO National Biological Collections. 10-12 December 2013, CSIRO Discovery Theatre, Canberra.
- July 2012: Invited talk at the 2012 ADSA®- AMPA-ASAS-CSAS-WSASAS Joint Annual Meeting, July 15–19 Phoenix, Arizona, USA. Invited to speak during the Breeding and Genetics: Systems Biology in Animal Breeding: Identifying relationships among markers, genes, and phenotypes with topic listed as: Building SNP-derived regulatory networks. (http://www.jtmtg.org/2012/index.asp)
- <u>5 July 2011</u>: Invited seminar at Norwegian University of Life Sciences, As, Norway. Hosted by Prof. Theo Meuwissen. Title: "Computational and systems biology research at CSIRO Livestock Industries".
- 14. <u>1 July 2011</u>: Invited seminar at "Instituto Nacional de Investigacion Agraria", Madrid, Spain. Hosted by Dr. Ana Fernandez. Title: "Computational and systems biology research at CSIRO Livestock Industries".

- <u>30 June 2011</u>: Invited seminar at "Centre de Regulacio Genomics", Barcelona, Spain. Hosted by Dr. Roderic Guigo. Title: "Gene network inference applied to two disparate scenarios: Cow puberty and colon cancer".
- 16. <u>29 June 2011:</u> Invited seminar at "Centre de Recerca Agrogenomica", Universitat Autonoma de Barcelona, Spain. Hosted by Prof. Miguel Perez-Enciso. Title: "Computational and systems biology research at CSIRO Livestock Industries".
- 17. <u>18 May 2011</u>: Invited lecture at "Open Lecture Series". QAAFI Centre for Nutrition & Food Sciences, University of Queensland, St Lucia.
- 18. <u>28 February 2011</u>: Invited seminar at Texas A&M University. Hosted by Assoc. Prof. David Riley (<u>http://animalscience.tamu.edu/facultystaff/faculty/riley.htm</u>).
- 19. <u>August 2010</u>: Invited talk at the 9th World Congress on Genetics Applied to Livestock Production, Leipzig, Germany.
- 20. <u>16 June 2009</u>: Invited seminar at the "Centro de Investigación Príncipe Felipe", Valencia, Spain.
- <u>24 November 2008</u>: Invited lecture at the Second Annual Workshop on Statistical Methods for Genetic Analysis. Queensland University of Technology, Brisbane, Australia. Lecture Title: "PCIT: Combining partial correlation and an information theory approach to the reversedengineering of gene co-expression networks" (http://silmaril.math.sci.qut.edu.au/~keithj/Genetic Analysis Workshop.htm).
- 22. <u>27 June 2008:</u> Invited seminar at the National Veterinary Institute, Technical University of Denmark, Copenhagen, Denmark (<u>http://www.vet.dtu.dk/Default.aspx?ID=2227</u>).
- 23. <u>25 June 2008:</u> Invited seminar at the Centre for Genomic Regulation, Barcelona, Spain (<u>http://www.crg.es</u>).
- 24. <u>19-21 June 2008</u>: Invited keynote speaker at the XIV Reunión Nacional de Mejora Genética Animal, 19-21 June 2008, Seville, Spain. (<u>http://www.dcam.upv.es/acteon/</u>).
- 25. <u>September 2007:</u> Invited Speaker at the 17th Conference of the Association for the Advancement of Animal Breeding and Genetics (Armidale, NSW, Australia; <u>http://www.aaabg.org</u>).
- 26. <u>19-October-2006:</u> Invited seminar at Mathematics and Computing, University of Southern Queensland, Toowoomba (<u>http://www.sci.usq.edu.au/research/seminars/?seminarID=120</u>).
- 27. <u>22-September-2006</u>: Invitation by Prof. Jesús Piedrafita, Head of Animal and Food Science Department, Universitat Autonoma de Barcelona (<u>http://antalya.uab.es/cruiz/index.html</u>) to present a general CSIRO Livestock Industries talk at their "Scientific Session".
- 28. <u>August 2006</u>: Invited talk at the 8th World Congress on Genetics Applied to Livestock Production, Belo Horizonte, Brazil (<u>http://www.wcgalp8.org.br</u>).
- 29. <u>28-July-2006</u>: Invited talk at the SNP Genotyping Workshop organized by the AGRF in conjunction with Sequenom, Millenium Science and Affymetrix (<u>http://www.agrf.org.au</u>).
- 30. <u>September 2005:</u> Invited Speaker at the 16th Conference of the Association for the Advancement of Animal Breeding and Genetics (Noosa, Queensland, Australia; <u>http://www.aaabg.org</u>).
- 31. <u>July 2004</u>: Invited talk at "Applied Quantitative Genetics in a Genomics World" workshop, QDPI&F, Bribie Island, Queensland.
- 32. <u>April 2004</u>: Invited seminar at the Australian Statistical Society ordinary monthly meeting (<u>http://www.statsoc.org.au/branches/QLD/talks_2004/talk20040406.html</u>).
- 33. <u>May 2003:</u> Invited seminar at College of Biological Sciences, University of California Davis, CA, USA. Details at <u>http://www.dbs.ucdavis.edu/seminars/SearchDetails.cfm?id=5989</u>
- 34. <u>May 2003</u>: Invited seminar at Michigan State University, East Lansing, MI, USA, May 2003.

Lectures and short courses:

35. <u>7-11 June 2010</u>: Invitation to lecture a 1-week graduate course entitled "Introduction to Systems Biology" at the Universidad Politéctica de Valencia, Valencia, Spain.

- <u>8 June 2009</u>: Invitation to lecture a 1-day post-graduate course entitled "Systems Biology: Holism approaches to genetics and genomics in livestock species" at the Universitat Autonoma de Barcelona, Barcelona, Spain.
- <u>25 29 June, 2007</u>: Invitation to lecture at the 2007 Winter School in Mathematical and Computational Biology hosted by the ARC Centre in Bioinformatics and the Institute for Molecular Bioscience (<u>http://bioinformatics.org.au/ws07/index.html</u>).
- September 2006: Invitation to lecture a 1-week graduate course entitled "Statistical analysis of microarrays" at the Universitat Autonoma de Barcelona, Spain. Full details at http://www.icrea.es/pag.asp?id=Miguel.Perez, click on "2006 Course: Microarray analysis" link.
- 39. <u>26 30 June, 2006</u>: Invitation to lecture at the 2006 Winter School in Mathematical and Computational Biology (<u>http://bioinformatics.org.au/ws06/index.html</u>; Queensland Bioscience Precinct) hosted by the ARC Centre in Bioinformatics and the Institute for Molecular Bioscience.
- 40. <u>February 2006</u>: Invitation to lecture a 1-week graduate course entitled "A quantitative overview to gene expression profiling in animal breeding" at the Armidale Animal Breeding Summer Courses. The University of New England, Armidale, NSW, Australia (<u>http://www-personal.une.edu.au/~jvanderw/aabcwint.htm</u>).
- 41. <u>October 2003</u>: Coordinator "Design and Analysis of Microarray Gene Expression Experiments" course. CSIRO Livestock Industries, Queensland Bioscience Precinct, Brisbane, Australia. (<u>http://www.livestockgenomics.csiro.au/courses/rosacourse/</u>)
- 42. <u>September 2000</u>: Coordinator "FORTRAN 90 Programming Techniques in Animal Breeding" course by Ignacy Misztal from University of Georgia, Athens, USA. Course presented at The University of New England, Armidale, NSW, Australia.
- 43. <u>January 1998</u>: Coordinator "Introduction to MCMC Methods" course by Daniel Sorensen, Danish Institute of Agricultural Sciences, Tjele, Denmark. Course presented at The University of New England, Armidale, NSW, Australia.

Scientific Committees:

- 44. <u>May-September 2009:</u> Member of the Program Committee of InCoB 2009, Singapore 7-11 September 09 (<u>http://incob.apbionet.org/incob09/</u>).
- 45. <u>December 2008:</u> Member of the Scientific Committee of the Eight International Conference for the Critical Assessment of Microarray Data Analysis (CAMDA 2008), 4-6 December 2008, Vienna, Austria (<u>http://camda.bioinfo.cipf.es/</u>).
- 46. <u>April 2008</u>: Member of the Organising Committee and Chair (Functional Genomics session) of the 3rd International Symposium on Animal Functional Genomics, April 2008, Edinburgh, UK.
- <u>October 2006:</u> Member of the Organising Committee for Horizons in Livestock Sciences Conference. October 2006, Gold Coast, Queensland, Australia (<u>http://www.livestockhorizons.com/</u>).
- 48. Member of the Organising Committee and Chairperson of the Scientific Program Committee of the 16th Conference of the Association for the Advancement of Animal Breeding and Genetics (<u>http://www.aaabg.org</u>).
- 49. Member of the Organising committee and Chair (Bioinformatics and Data Mining section) of the 2nd International Symposium on Animal Functional Genomics, May 2006, Michigan, USA (<u>http://isafg.msu.edu/secondisafg.html</u>)