
10th World Congress on
Genetics Applied to
Livestock Production
Vancouver, BC, Canada
August 17-22, 2014
In conjuction with American
Society of Animal Science

Program

Symposia and Oral Presentations
Monday, August 18, 2014

Plenary Speaker – Monday
Chairs: E. John Pollak, USDA, ARS, U.S. Meat Animal Research Center and Filippo Miglior, Canadian Dairy Network and University of Guelph
Bayshore Grand Ballroom

8:30 AM Plenary 1 **Animal Breeding in the Next-Generation Sequencing Era.**
J. F. Taylor[*], University of Missouri, Columbia

Bioinformatics: New Tools and Approaches
Chair: Paul Stothard, University of Alberta
Bayshore Grand Ballroom A

10:30 AM 157 **SNPchiMp v.2: An Open Access Web Tool for SNP Data Management on Bovine, Porcine and Equine Livestock.**
*E. L. Nicolazzi[*1], N. Nazzicari[1], A. Caprera[1], I. Fojadelli[1], F. Strozzi[1], R. D. Schnabel[2], C. Lawley[3], A. Pirani[4], F. Brew[5], C. Soans[3], H. Jorjani[6], G. Evans[7], B. Simpson[8], J. L. Williams[1] and A. Stella[1,9], [1]Fondazione Parco Tecnologico Padano, Lodi, Italy, [2]University of Missouri, Columbia, [3]Illumina Inc., San Diego, CA, [4]Affymetrix Inc., Santa Clara, CA, [5]Affymetrix UK Ltd., High Wycombe, United Kingdom, [6]Interbull Centre, Uppsala, Sweden, [7]GeneSeek, a Neogen Company, Auchincruive, Ayr, Scotland, [8]GeneSeek, a Neogen Company, Lincoln, NE, [9]IBBA CNR, Lodi, Italy*

10:45 AM 158 **Parallel Computing for Mixed Model Implementation of Genomic Prediction and Variance Component Estimation of Additive and Dominance Effects.**
*C. Wang[1], D. Prakapenka[2], H. B. Runesha[2] and Y. Da[*1], [1]Department of Animal Science, University of Minnesota, Saint Paul, [2]Research Computing Center, The University of Chicago, Chicago, IL*

11:00 AM 159 **A Computationally Efficient Algorithm for Genomic Prediction using a Bayesian Model.**
*T. Wang[*1,2,3], Y. P. P. Chen[4], M. E. Goddard[5], T. H. E. Meuwissen[6] and B. J. Hayes[5], [1]Biosciences Research Division, Department of Primary Industries, Melbourne, Australia, [2]Dairy Futures Cooperative Research Centre, Melbourne, Australia, [3]Faculty of Science, Technology and Engineering, La Trobe University, Melbourne, Australia, [4]Faculty of Science, Technology and Engineering, La Trobe University, Melbourne, CA, Australia, [5]The Department of Environment and Primary Industries, Bundoora, Australia, [6]Norwegian University of Life Sciences, Ås, Norway*

11:15 AM 160 **Selection of SNP Panels for Parentage Testing.**
*C. Gondro[*1], E. M. Strucken[1], H. K. Lee[2], K. D. Song[2] and S. W. Lee[3], [1]University of New England, Armidale, Australia, [2]Hankyong National University, Anseong, South Korea, [3]Hanwoo Experiment Station, NIAS, RDA, Pyeongchang, South Korea*

11:30 AM 161 **Long Haplotype Method for Detection of Maternal Grandsire and Sire of Maternal Granddam.**
J. B. van Kaam[*] and R. Finocchiaro, Anafi, Cremona, Italy

11:45 AM 162 **QS@breeding – A Virtual Appliance for Quality Control in BLUP Genetic Evaluation.**
*E. Groeneveld[*1], U. Müller[2], C. V. Truong[1] and S. Krostitz[2], [1]Institute of Farm Animal Genetics (FLI), Mariensee, Germany, [2]Saxon State Agency for Environment, Agriculture and Geology, Köllitsch, Germany*

Breeding in Aquaculture Species – Salmonids
Chair: Thomas Moen, AquaGen AS
Cypress Room

10:30 AM 261 **RNA-seq Analysis of Transcriptome Response to VHS-V Infection in Two Target Tissues of Resistant vs Susceptible Trout Clonal Lines.**
*C. Genet[*1], E. R. Verrier[2], C. Ciobotaru[1], C. Klopp[3], D. Esquerre[4], D. Laloe[5], P. Boudinot[6] and E. Quillet[1], [1]INRA*

UMR1313 GABI, Jouy en Josas, France, [2]INSERM UMR1110, Strasbourg, France, [3]INRA SIGENAE, Castanet Tolosan, France, [4]INRA GENPHYSE, Castanet Tolosan, France, [5]INRA UMR 1313 GABI, Jouy en Josas, France, [6]INRA, UR 892 VIM, Jouy en Josas, France

10:45 AM 262 **Genetic Variation in Resistance to Pancreas Disease in Atlantic Salmon.**
*S. Gonen[*1], A. Norris[2], P. Arnesen[2], S. C. Bishop[1] and R. D. Houston[1], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]Marine Harvest, Sandviksboder 78a, Bergen, Norway*

11:00 AM 263 **Development of a 200K SNP Array for Atlantic Salmon: Exploiting Across Continents Genetic Variation.**
*J. M. Yáñez[*1,2], S. Naswa[3], M. E. López[1], L. Bassini[1,2], M. E. Cabrejos[1], J. Gilbey[4], L. Bernatchez[5], A. Norris[6], C. Soto[7], J. Eisenhart[8], B. Simpson[8], R. Neira[2,9], J. P. Lhorente[2], P. Schnable[10,11], S. Newman[3], A. Mileham[12] and N. Deeb[3], [1]University of Chile, Santiago, Chile, [2]Aquainnovo, Puerto Montt, Chile, [3]Genus, plc, Hendersonville, TN, [4]Marine Scotland Science, Perth, United Kingdom, [5]Université Laval, Québec, QC, Canada, [6]Marine Harvest, Dublin, Ireland, [7]Camanchaca, Puerto Montt, Chile, [8]GeneSeek, a Neogen Company, Lincoln, NE, [9]University of Chile, Aquainnovo, Santiago, Chile, [10]Data2Bio LLC, Ames, IA, [11]Iowa State University, Ames, [12]Genus plc, DeForest, WI*

11:15 AM 264 **Genome-Wide Association Analysis Of Harvest Weight In A North American Atlantic Salmon Population.**
*J. J. Tosh[*1], R. V. Ventura[1,2], K. P. Ang[3], J. A. K. Elliott[3], M. P. Kent[4], S. Lien[4], E. G. Boulding[5] and L. R. Schaeffer[1], [1]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [2]Beef Improvement Opportunities, Guelph, ON, Canada, [3]Cooke Aquaculture, Blacks Harbour, NB, Canada, [4]Centre for Integrative Genetics, Norwegian University of Life Sciences, Ås, Norway, [5]Department of Integrative Biology, University of Guelph, Guelph, ON, Canada*

11:30 AM 265 **Genome Wide Association Analysis for Resistance to Sea Lice in Atlantic Salmon: Application of a Dense SNP Array.**
*R. D. Houston[*1], S. C. Bishop[1], D. R. Guy[2], A. E. Tinch[2], J. B. Taggart[3], J. E. Bron[3], A. Downing[4], M. J. Stear[5], K. Gharbi[4] and A. Hamilton[2], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]Landcatch Natural Selection, Stirling, United Kingdom, [3]Institute of Aquaculture, School of Natural Sciences, University of Stirling, Stirling, United Kingdom, [4]Edinburgh Genomics, University of Edinburgh, Edinburgh, United Kingdom, [5]University of Glasgow, Glasgow, United Kingdom*

11:45 AM 266 **RAD-Seq Mapping of Spontaneous Masculinization in XX Doubled Haploid Rainbow Trout Lines.**
*R. Guyomard[*1], Y. Guiguen[2], M. Bernard[1], A. Charlet[1], N. Dechamp[1], C. Hervet[1], C. Chantry-Darmon[3], F. Krieg[1] and E. Quillet[1], [1]Institut National de la Recherche Agronomique, Jouy-en-Josas, France, [2]Institut National de la Recherche Agronomique, Rennes, France, [3]LABOGENA, Jouy-en-Josas, France*

Breeding Objectives and Economics of Breeding Schemes
Chair: Jack C. M. Dekkers, Iowa State University

Bayshore Grand Ballroom B-C

10:30 AM 001 **How to Select the Best Bulls Worldwide for a Particular National Market.**
*C. Patry[*1] and V. Ducrocq[2], [1]INRA, UMR 1313 GABI, Jouy-en-Josas, France, [2]INRA, UMR1313 GABI, Jouy-en-Josas, France*

10:45 AM 002 **Factors Affecting Rankings of Dairy Bulls across New Zealand Dairy Farm Systems.**
*B. Santos[*1], T. Byrne[1], B. Visser[1], J. Bryant[2] and P. Amer[1], [1]AbacusBio Limited, Dunedin, New Zealand, [2]DairyNZ, Hamilton, New Zealand*

11:00 AM 003 **Economic Breeding Objectives for Canadian Lamb.**
*C. D. Quinton[*1], D. Kennedy[2], K. Stachowicz[1,3] and S. P. Miller[1,4], [1]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [2]Ontario Ministry of Agriculture and Food, Guelph, ON, Canada, [3]AbacusBio Limited, Dunedin, New Zealand, [4]AgResearch, Invermay, Mosgiel, New Zealand*

11:15 AM 004 **Optimal Breeding Strategies for Sheep should consider Variation in Feed Availability.**
*G. Rose[*1,2], H. A. Mulder[3], J. van der Werf[2,4] and J. A. M. van Arendonk[3], [1]Animal Breeding and Genomics Centre, Wageningen University, Wagenignen, Netherlands, [2]Sheep CRC, Armidale, Australia, [3]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [4]University of New England, Armidale, Australia*

11:30 AM 005 **Multiple Regression and Mediator Variables can be used to Avoid Double Counting when Economic Values are Derived using Stochastic Herd Simulation.**
*S. Østergaard[1], J. Ettema[*1,2], L. Hjortø[3], J. Pedersen[3] and M. K. Sørensen[1,3], [1]Aarhus University, Tjele, Denmark, [2]SimHerd Inc., Tjele, Denmark, [3]Knowledge Centre for Agriculture, Aarhus, Denmark*

11:45 AM 006 **Risk-Rated Economic Values for Production and Functional Traits of Small East African Goat using Profit Functions.**
*S. M. Mbuku[*1], I. S. Kosgey[2], O. Mwai[3] and A. K. Kahi[4], [1]Kenya Agricultural Research Institute, National Beef Research Centre, Nakuru, Kenya, [2]Laikipia University, Nyahururu, Kenya, [3]International Livestock Research Institute, Nairobi, Kenya, [4]Egerton University, Njoro, Kenya*

Symposium: Leveraging the Poultry Genome Assembly
Chair: Hans H. Cheng, USDA, ARS, ADOL
Bayshore Grand Ballroom D

10:30 AM 314 **Allele-Specific Expression Screening Demonstrates that Variation in Genetic Resistance to Marek's Disease in Chicken is Mainly Controlled at the Transcriptional Level.**
H. H. Cheng[*], USDA, ARS, ADOL, East Lansing, MI

11:00 AM 315 **mRNAseq-based Functional and Pathway Analysis in Chicken is Sensitive to the Method Used to Construct the Reference Transcriptome.**
*L. Preeyanon[1], H. H. Cheng[2] and C. T. Brown[*1], [1]Michigan State University, East Lansing, [2]USDA, ARS, ADOL, East Lansing, MI*

11:30 AM 316 **Whole Transcriptome Sequencing in Reciprocal Crosses Suggests Parent-of-Origin Effects on Gene Expression in the Chicken Genome.**
*F. Lopes Pinto[1], A. M. Molin[1], E. R. Gilbert[2], C. Honaker[2], P. B. Siegel[2], G. Andersson[1], L. Andersson[3] and D. J. de Koning[*1], [1]Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden, [2]Virginia Polytechnic Institute and State University, Blacksburg, [3]Department of Medical Biochemistry and Microbiology, Uppsala University, Uppsala, Sweden*

Symposium: Management of Animal Genetic Resources
Chair: Harvey D. Blackburn, USDA-ARS-National Animal Germplasm Program
Bayshore Grand Ballroom E-F

10:30 AM 027 **The Global Plan of Action for Animal Genetic Resources: its History and Future.**
P. Boettcher[*], I. Hoffmann, R. Baumung, D. Pilling, M. Wieczorek and B. Scherf, Food and Agriculture Organization of the United Nations, Rome, Italy

11:00 AM 028 **Status and Gaps in Characterization of Animal Genetic Resources.**
M. Tixier-Boichard[*], INRA, AgroParisTech, Jouy-en-Josas, France

11:30 AM 029 **Conservation of Animal Genetic Resources (AnGR): the Next Decade.**
*S. R. Paiva[*1], C. M. Pimentel[2] and H. D. Blackburn[3], [1]Embrapa - Labex - Secretariat International Affairs, Brasilia, Brazil, [2]Universidade de Brasília, Brasília, Brazil, [3]USDA-ARS-National Animal Germplasm Program, Fort Collins, CO*

Symposium: Statistical Methods for Genomic Prediction
Chair: Roel F. Veerkamp, Wageningen University
Stanley Park Ballroom

10:30 AM 053 **Bayesian Prediction Combining Genotyped and Non-Genotyped Individuals.**
*D. J. Garrick[*1], J. C. M. Dekkers[1], B. L. Golden[2] and R. L. Fernando[1], [1]Iowa State University, Ames, [2]Calpoly, San Luis Obispo, CA*

11:00 AM 054 **Genomic Evaluation using QTL Information.**
*V. Ducrocq[*1], P. Croiseau[1], A. Baur[1], R. Saintilan[2], S. Fritz[1] and D. Boichard[1], [1]INRA, UMR1313 GABI, Jouy-en-Josas, France, [2]INRA UMR 1313 GABI, Jouy-en-Josas, France*

11:30 AM 055 **Genomic Heritability: What Is It?.**
*G. de los Campos[*1], D. A. Sorensen[2] and D. Gianola[3], [1]University of Alabama at Birmingham, Birmingham, AL, [2]Aarhus University, Tjele, Denmark, [3]University of Wisconsin, Madison*

Adaptation and Selection in Harsh Environments
Chair: Susan J. Lamont, Iowa State University
Cypress Room

1:30 PM 030 **Genotype x Climate Interactions for Protein Yield using Four European Holstein populations.**
*H. Hammami[*1,2], M. J. Carabaño[3], B. Logar[4], M. L. Vanrobays[1] and N. Gengler[1], [1]University of Liege, Gembloux Agro-Bio Tech, Gembloux, Belgium, [2]National Fund for Scientific Research, Brussels, Belgium, [3]INIA, Madrid, Spain, [4]Agricultural Institute of Slovenia, Ljubljana, Slovenia*

1:45 PM 031 **Phenotypic Analysis of Pulmonary Arterial Pressure and Feed Intake Data in Angus Cattle.**
*R. J. Boldt[*1], M. M. Culbertson[1], N. F. Berge[1], M. G. Thomas[1], T. N. Holt[2], S. E. Speidel[1] and R. M. Enns[1], [1]Colorado State University, Department of Animal Sciences, Fort Collins, [2]Colorado State University, College of Veterinary Medicine and Biomedical Sciences, Fort Collins, CO*

2:00 PM 032 **Breeding Objectives for Red Maasai and Dorper Sheep in Kenya – a Participatory Approach.**
*E. Zonabend[*1,2], T. Mirkena[1], J. Audho[2], J. M. Ojango[2], E. Strandberg[1], A. Näsholm[1], B. Malmfors[1], A. M. Okeyo[2] and J. Philipsson[1], [1]Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden, [2]International Livestock Research Institute, Nairobi, Kenya*

2:15 PM 033 **Selection Criteria for Heat Tolerance in Dairy Cattle Production.**
*M. J. Carabaño[*1], K. Bachagha[1], M. Ramón[2] and C. J. Diaz[1], [1]INIA, Madrid, Spain, [2]CERSYRA, Valdepeñas, Spain*

2:30 PM 034 **A Running Breeding Program for Indigenous Chickens in Ethiopia: Evaluation of Success.**
W. E. Woldegiorgiss[*], ILRI-Addis, Addis Ababa, Ethiopia; Wageningen University, Wageningen, Netherlands

2:45 PM 035 **Genetic Improvement of Meat Production in Reindeer.**
*K. Muuttoranta[*1], O. Holand[2], K. H. Roed[3], M. Nieminen[4] and A. Mäki-Tanila[5], [1]MTT Agrifood Research Finland, Jokioinen, Finland, [2]Norwegian University of Life Sciences, Ås, Norway, [3]Norwegian University of Life Sciences, Oslo, Norway, [4]Finnish Game and Fisheries Research Institute, Inari, Finland, [5]MTT Agrifood Research, Jokioinen, Finland*

Alternative Methods for Analysis of Disease Phenotypes
Chair: Stephen C. Bishop, The Roslin Institute and University of Edinburgh
Bayshore Grand Ballroom E-F

1:30 PM 088 **Genetic Selection for Disease Resistance and Tolerance in Pigs using Reproduction Records.**
*P. K. Mathur[*1], J. M. Herrero-Medrano[1], P. Alexandri[1], E. F. Knol[1], H. A. Mulder[2], H. Rashidi[2] and J. ten Napel[3], [1]TOPIGS Research Center IPG, Beuningen, Netherlands, [2]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [3]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Lelystad, Netherlands*

1:45 PM 089 **Genome Wide Association Analysis of Lung Lesions in Cattle using Sample Pooling.**
J. W. Keele[*], L. A. Kuehn, T. G. McDaneld, S. A. Jones, T. P. L. Smith, S. D. Shackelford, D. A. King and T. L. Wheeler, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE

2:00 PM 090 **Definition and Utilization of Among Hosts Heritable Variation in Reproduction Ratio R0 for Infectious Diseases.**
*M. Anche[*1], M. C. M. de Jong[2] and P. Bijma[3], [1]Animal Breeding and Genomics Centre, Quantitative Veterinary Epidemiology Group,Wageningen University, Wageningen, Netherlands, [2]Quantitative Veterinary Epidemiology*

Group, Wageningen University, Wageningen, Netherlands, [3]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands

2:15 PM 091 **Dynamic and Genetic Signatures of Resistance and Tolerance of Pigs to PRRS.**
*G. Lough[*1], I. Kyriazakis[2], S. Forni[3] and A. Doeschl-Wilson[1], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]Newcastle University, Newcastle upon Tyne, United Kingdom, [3]Genus Plc, Hendersonville, TN*

2:30 PM 092 **Mediation Analysis of Milk Losses Associated With Clinical Mastitis.**
*J. Detilleux[*1], J. P. Kastelic[2] and H. Barkema[3], [1]University of Liege, Liege, Belgium, [2]Agriculture & Agri-Food Canada, Calgary, AB, Canada, [3]University of Calgary, Calgary, AL, Canada*

2:45 PM 093 **Simultaneous Inference of Genetic Parameters Underlying Susceptibility and Infectivity of Livestock from Epidemiological Data.**
*O. Anacleto[*1], D. Lipschutz-Powell[1], L. A. García-Cortés[2], J. A. Woolliams[1] and A. Doeschl-Wilson[1], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]SGIT - INIA, Ministerio de Ciencia e Innovación, Madrid, Spain*

Improving Difficult Traits in Beef Cattle
Chair: Stephen P. Miller, AgResearch
Bayshore Grand Ballroom B-C

1:30 PM 232 **Selection Enhanced Estimates of μ-Calpain, Calpastatin, and Dacylglycerol O-Acyltransferase 1 Genetic Effects on Pre-weaning Performance, Carcass Quality Traits, and Residual Variance of Tenderness in Composite MARC III Beef Cattle.**
R. G. Tait, Jr., S. D. Shackelford, T. L. Wheeler, D. A. King, J. W. Keele, E. Casas, T. P. L. Smith and G. L. Bennett[*], USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE

1:45 PM 233 **Genetic Correlations Between Carcass and Meat Quality Traits of Adult Cows and Similar Traits of Young Bulls in French Charolais Beef Cattle.**
*C. Aviles[1], A. Vinet[2], R. Saintilan[3], B. Picard[4], D. Maupetit[5] and G. Renand[*6], [1]Universidad de Córdoba, Cordoba, Spain, [2]INRA, UMR1313 GABI, Jouy-en-Josas, France, [3]UNCEIA, Jouy-en-Josas, France, [4]INRA, Theix, France, [5]INRA, Bourges, France, [6]INRA, Jouy en Josas, France*

2:00 PM 234 **Phenotypic and Genetic Analysis of Meat Eating Quality Traits in Irish Cattle.**
*F. Kearney[*1], A. P. Moloney[2], R. Prendiville[3], P. Allen[4], B. Meredith[5] and S. Conroy[5], [1]Irish Cattle Breeding Federation, Cork, Ireland, [2]TEAGASC, Dunsany, Meath, Ireland, [3]Teagasc, Grange, Co. Meath, Ireland, [4]Teagasc, Ashtown, Dublin 15, Ireland, [5]Irish Cattle Breeding Federation, Bandon, Co. Cork, Ireland*

2:15 PM 235 **Genomic Wide-Selection for Tick Resistance in Hereford and Braford Cattle via Reaction Norm Models.**
*R. R. Mota[*1,2], R. J. Tempelman[2], F. F. Cardoso[3], I. Aguilar[4] and P. S. Lopes[5], [1]Univerisdade Federal de Viçosa, Viçosa, Minas Gerais State, Brazil, [2]Michigan State University, East Lansing, [3]Embrapa Southern Region Animal Husbandry, Bage, Brazil, [4]INIA, Las Brujas, Uruguay, [5]Universidade Federal de Viçosa, Viçosa, Brazil*

2:30 PM 236 **Angus Cattle at High Altitude: Genetic Relationships and Initial Genome-Wide Association Analyses of Pulmonary Arterial Pressure.**
*R. R. Cockrum[*1], X. Zeng[2], N. F. Berge[2], J. M. Neary[3], F. B. Garry[3], T. N. Holt[4], H. D. Blackburn[5], S. P. Thomas[4], S. E. Speidel[2], D. J. Garrick[6], R. M. Enns[2] and M. G. Thomas[2], [1]Virginia Polytechnic Institute and State University, Blacksburg, [2]Colorado State University, Department of Animal Sciences, Fort Collins, [3]Colorado State University, College of Veterinary Medicine and Biomedical Sciences, Fort Collins, CO, [4]Colorado State University, Fort Collins, [5]USDA-ARS-National Animal Germplasm Program, Fort Collins, CO, [6]Iowa State University, Ames*

2:45 PM 237 **A Haplotype Diagnostic for Polled in Australian Beef Cattle.**
E. K. Piper[*], The University of Queensland, School of Veterinary Science, Gatton, Australia

Statistical and Genomic Tools for Mapping QTL and Genes (Swine, Poultry, Sheep and Mice)
Chair: Michel Georges, University of Liège

Bayshore Grand Ballroom D

1:30 PM 184 **Mapping Resolution in Single and Multiple Porcine F2 Populations using Genome Sequence Marker Panels.**
J. Bennewitz[*] and R. Wellmann, Institute of Animal Husbandry and Breeding, University Hohenheim, Stuttgart, Germany

1:45 PM 185 **Meta-Analysis of Genome Wide Association Studies for Pork Quality Traits.**
*Y. L. Bernal Rubio[*1,2], J. L. Gualdrón Duarte[2], R. O. Bates[1], C. W. Ernst[1], D. Nonneman[3], G. A. Rohrer[3], D. A. King[3], S. D. Shackelford[3], T. L. Wheeler[3], R. J. C. Cantet[2] and J. P. Steibel[1], [1]Michigan State University, East Lansing, [2]Department of Animal Science, University of Buenos Aires, Buenos Aires, Argentina, [3]USDA/ARS, Clay Center, NE*

2:00 PM 186 **The Collaborative Cross – A Next Generation Mouse Genetic Resource Population for Precision Agriculture through Deep Genetic Analysis.**
*M. Soller[*1], H. Abu-Toamih-Atamni[2] and F. Iraqi[2], [1]Hebrew Univarsity of Jerusalem, Jerusalem, Israel, [2]Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel*

2:15 PM 187 **Genome Wide Association Study on milk Production Traits in a Nucleus Flock of Sarda Breed Sheep using a Novel Method Combining Linkage and Linkage Disequilibrium Mapping.**
M. G. Usai[*], S. Casu, T. Sechi, S. Miari, G. Mulas, G. B. Congiu, S. Sechi, S. L. Salaris and A. Carta, Research Unit: Genetics and Biotechnology, AGRIS Sardinia, Sassari, Italy

2:30 PM 188 **Investigating a Highly Significant QTL for Milk Protein Content Segregating in Sarda Sheep Breed Close to the Caseins Cluster Region by Whole Genome Re-Sequencing of Target Animals.**
*S. Casu[*1], T. Sechi[1], M. G. Usai[1], S. Miari[1], M. Casula[1], G. Mulas[1], R. Giannico[2], B. Lazzari[2], A. Stella[2,3] and A. Carta[1], [1]Research Unit: Genetics and Biotechnology, AGRIS Sardinia, Sassari, Italy, [2]Fondazione Parco Tecnologico Padano, Lodi, Italy, [3]IBBA CNR, Lodi, Italy*

2:45 PM 189 **Footprints of Parallel Selection Revealed by Direct Sequencing in Egg Laying Chicken.**
*S. Qanbari[*1], M. Seidel[2], T. M. Strom[2], R. Preisinger[3] and H. Simianer[1], [1]Georg-August University, Göttingen, Germany, [2]Helmholtz Zentrum München, München, Germany, [3]Lohmann Tierzucht GmbH, Cuxhaven, Germany*

Symposium: Genomic Selection in Sheep
Chair: Julius H.J. van der Werf, CRC for Sheep Industry Innovation

Bayshore Grand Ballroom A

1:30 PM 332 **Toward Genomic Breeding Programs in French Dairy Sheep and Goats.**
*H. Larroque[*1], F. Barillet[1], G. Baloche[1], J. M. Astruc[2], D. Buisson[1], F. Shumbusho[1,2], V. Clément[2], G. Lagriffoul[2], I. Palhière[1], R. Rupp[1], C. Carillier[1], C. Robert-Granié[1] and A. Legarra[1], [1]INRA, UMR 1388 GenPhySE, Castanet-Tolosan, France, [2]Institut de l'Elevage, Castanet-Tolosan, France*

2:00 PM 333 **Genomic Selection in New Zealand Dual Purpose Sheep.**
*K. G. Dodds[*1], B. Auvray[2], M. A. Lee[2], S. A. N. Newman[2] and J. C. McEwan[2], [1]AgResearch, Mosgiel, New Zealand, [2]AgResearch, Invermay, New Zealand*

2:30 PM 334 **Genomic Evaluations in the Australian Sheep Industry.**
*A. A. Swan[*1], D. Brown[1], H. D. Daetwyler[2], M. J. Kelly[3], B. J. Hayes[4], N. Moghaddar[5] and J. van der Werf[6], [1]Animal Genetics and Breeding Unit, Armidale, Australia, [2]CRC for Sheep Industry Innovation, Armidale, Australia, [3]The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, Brisbane, Australia, [4]Department of Environment and Primary Industries, Bundoora, Australia, [5]Cooperative Research Centre for Sheep Industry Innovation, Armidale, Australia, [6]School of Environmental & Rural Science, University of New England, Armidale, Australia*

Symposium: Improving Nutrient Utilization and Reducing the Environmental Impact of Dairy Operations through Genetic or Genomic Selection

Chair: Kent A. Weigel, University of Wisconsin

Stanley Park Ballroom

1:30 PM 285 **Improving Biological and Economic Aspects of Production Efficiency through Genetic Selection and Genome-Guided Replacement Management.**
*K. A. Weigel[*1], C. Yao[1], P. C. Hoffman[1], L. E. Armentano[1], D. M. Spurlock[2], R. J. Tempelman[3] and M. J. VandeHaar[3], [1]University of Wisconsin, Madison, [2]Iowa State University, Ames, [3]Michigan State University, East Lansing*

2:00 PM 286 **Genetic and genomic solutions to improve feed efficiency and reduce environmental impact of dairy cattle.**
*Y. de Haas[*1], J. E. Pryce[2], D. P. Berry[3] and R. F. Veerkamp[4], [1]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands, [2]Biosciences Research Division, Department of Environment and Primary Industries, Victoria, Australia, [3]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [4]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands*

2:30 PM 287 **Genetic Architecture and Biological Basis of Feed Efficiency in Dairy Cattle.**
*D. M. Spurlock[*1], R. J. Tempelman[2], K. A. Weigel[3], L. E. Armentano[3], G. R. Wiggans[4], R. F. Veerkamp[5], Y. de Haas[6], M. P. Coffey[7], E. E. Connor[8], M. D. Hanigan[9], C. R. Staples[10] and M. J. VandeHaar[2], [1]Iowa State University, Ames, [2]Michigan State University, East Lansing, [3]University of Wisconsin, Madison, [4]Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD, [5]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [6]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands, [7]SRUC, Edinburgh, United Kingdom, [8]USDA-ARS, Bovine Functional Genomics Laboratory, Beltsville, MD, [9]Virginia Polytechnic Institute and State University, Blacksburg, [10]Dept. of Animal Sciences, University of Florida, Gainesville*

Genetics of Trait Complexes: Growth and Development
Chair: Michael D. MacNeil, Delta G

Bayshore Grand Ballroom A

4:00 PM 126 **Muscle Transcriptomic Investigation of Late Fetal Development and Determinism of Maturity at Birth in Two Extreme Breeds: Meishan and Large White.**
*V. Voillet[1], M. San Cristobal[*1,2], Y. Lippi[3], P. Martin[3], N. Iannuccelli[1], Y. Billon[4], L. Canario[1] and L. Liaubet[1], [1]INRA, Castanet Tolosan, France, [2]INSA - IMT, Toulouse, France, [3]INRA, Toulouse, France, [4]INRA UE1372, F-17700 Surgères, France*

4:15 PM 127 **Systems Genetics Analysis of Obesity using RNA-Seq Data in an F2 Pig Resource Population.**
*L. J. Kogelman[*1], D. V. Zhernakova[2], H. J. Westra[2], S. Cirera[1], M. Fredholm[1], L. Franke[2] and H. N. Kadarmideen[1], [1]Department of Clinical Veterinary and Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark, [2]Department of Genetics, University Medical Center Groningen, Groningen, Netherlands*

4:30 PM 128 **Transcriptomic Prediction of Piglet Vitality from Umbilical Cord Blood of Purebreds and Crossbreds born in the Same Litter – Comparison of Meishan and Large White Sows.**
*L. Canario[*1], V. Voillet[2], N. Iannuccelli[3], Y. Lippi[4], P. Martin[4], Y. Billon[5], M. San Cristobal[6] and L. Liaubet[3], [1]INRA UMR1388, F-31326 Castanet-Tolosan, France, [2]INRA, Castanet-Tolosan, France, [3]INRA, Castanet Tolosan, France, [4]INRA, Toulouse, France, [5]INRA UE1372, F-17700 Surgères, France, [6]INSA - IMT, Toulouse, France*

4:45 PM 129 **The First Whole Transcriptome Profiling of Fibro/adipogenic Progenitor Cells and Discovery of Essential Genes Potentially Favorable to either Myogenesis or Adipogenesis in Muscle.**
*R. Li[1], S. Dayal[1,2], X. Zhou[1], X. Fu[1], J. J. Michal[1], W. Khan[3], M. Du[1] and Z. Jiang[*1], [1]Washington State University, Pullman, [2]ICAR Research Complex for Eastern Region, Bihar, India, [3]University of Sargodha, Sargodha, Pakistan*

5:00 PM 130 **Genomic Imprinting as a Potential Source of Missing Heritability of Mouse Body Mass Index.**
Y. Hu[*], G. J. M. Rosa and D. Gianola, University of Wisconsin, Madison

5:15 PM 131 **A Comprehensive Expression Profile of MicroRNAs in Porcine Developing Thyroid.**
Y. Shen[*], College of Animal Acience, Zhejiang University, Hanghzou, China

5:30 PM 132 **The Minipig Genome Harbors Regions of Selection for Growth.**
*C. H. U. W. Reimer[*1], C. J. Rubin[2], S. Weigend[3], K. H. Waldmann[4], O. Distl[4] and H. Simianer[1], [1]Georg-August-University, Göttingen, Germany, [2]Uppsala University, Uppsala, Sweden, [3]Institute of Farm Animal Genetics of the Friedrich-Loeffler-Institute, Neustadt-Mariensee, Germany, [4]University of Veterinary Medicine, Hannover, Germany*

5:45 PM 133 **Searching for Causal Networks Involving Latent Variables in Complex Traits: An Application to Growth, Carcass, and Meat Quality Traits in Pig.**
*F. Peñagaricano[*1], B. D. Valente[1], J. P. Steibel[2], R. O. Bates[2], C. W. Ernst[2], H. Khatib[1] and G. J. M. Rosa[1], [1]University of Wisconsin, Madison, [2]Michigan State University, East Lansing*

Improving Accuracy of Genomic Prediction
Chair: Dorian J. Garrick, Iowa State University
Bayshore Grand Ballroom D

4:00 PM 056 **Joint Genomic Evaluation of Cows and Bulls with BayesD for Prediction of Genotypic Values and Dominance Deviations.**
*R. Wellmann[*1], J. Ertl[2], R. Emmerling[2], C. Edel[2], K. U. Götz[2] and J. Bennewitz[1], [1]Institute of Animal Husbandry and Breeding, University Hohenheim, Stuttgart, Germany, [2]Bavarian State Research Center for Agriculture, Institute of Animal Breeding, Grub, Germany*

4:15 PM 057 **Size of Required Reference Population Updates to Achieve Constant Genomic Prediction Accuracy Across Generations.**
*M. Pszczola[*1], T. Strabel[1] and M. P. L. Calus[2], [1]Department of Genetics and Animal Breeding, Poznan University of Life Sciences, Poznan, Poland, [2]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands*

4:30 PM 058 **Genomic Selection of Pork pH in Purebred Pigs for Crossbred Performance.**
*Y. Miar[*1], G. Plastow[1], H. Bruce[1], R. Kemp[2], P. Charagu[3], C. Zhang[1], A. Huisman[4] and Z. Wang[1], [1]University of Alberta, Edmonton, AB, Canada, [2]Genesus Genetics Inc., Oakville, MB, Canada, [3]Hypor Inc, Regina, SK, Canada, [4]Hendrix Genetics, Boxmeer, Netherlands*

4:45 PM 059 **Prediction of Heterosis in White Leghorn Crossbreds using Paternal 60K SNP Genotypes.**
*E. N. Amuzu-Aweh[*1,2], H. Bovenhuis[1], D. J. de Koning[2] and P. Bijma[1], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden*

5:00 PM 060 **Improving Genomic Prediction for Danish Jersey using a Joint Danish-US Reference Population.**
*G. Su[*1], U. S. Nielsen[2], G. R. Wiggans[3], G. P. Aamand[4], B. Guldbrandtsen[1] and M. S. Lund[1], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Knowledge Center for Agriculture, Aarhus, Denmark, [3]Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD, [4]Nordic Cattle Genetic Evaluation, Aarhus, Denmark*

5:15 PM 061 **Maximizing Crossbred Performance through Purebred Genomic Selection.**
*H. Esfandyari[*1,2], A. C. Sørensen[3] and P. Bijma[2], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Aarhus, Denmark, [2]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [3]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark*

5:30 PM 062 **Genomic Estimation of Additive and Dominance Genetic Variance and their Effect on the Accuracy of Genomic Prediction of Sheep.**
*N. Moghaddar[*1,2] and J. van der Werf[3], [1]School of Environmental & Rural Science, University of New England, Armidale, Australia, [2]Sheep-CRC, Armidale, Australia, [3]University of New England, Armidale, Australia*

5:45 PM 063 **Genomic Prediction using QTL Derived from Whole Genome Sequence Data.**
R. F. Brøndum[*], G. Su, L. Janss, G. Sahana and M. S. Lund, Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark

Sheep and Goats Breeding (1)
Chair: John C. McEwan, AgResearch
Cypress Room

4:00 PM 335 **Genomic Selection Experiment in Lacaune Dairy Sheep: Progeny Test Results of Rams Initially Selected either on Parent Average or on Genomic Prediction.**
*G. Baloche[1], J. M. Astruc[2], P. Boulenc[3], B. Giral-Viala[3], P. Guibert[4], P. Panis[4], A. Legarra[5] and F. Barillet[*5], [1]INRA, Toulouse, France, [2]Institut de l'Elevage, Castanet-Tolosan, France, [3]Ovitest, Rodez, France, [4]Confédération Générale de Roquefort, Millau, France, [5]INRA, UMR 1388 GenPhySE, Castanet-Tolosan, France*

4:15 PM 336 **Genome-Wide Scan for Carcass Composition as Assessed by X-Ray Computed Tomography (CT) in Scottish Blackface Lambs.**
*O. Matika[*1], M. Anselme-Moizan[2], V. Riggio[1] and S. C. Bishop[1], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]INP, Ecole Nationale Vétérinaire, Toulouse, France*

4:30 PM 337 **Comparison of Joint and Purebred Genomic Evaluation in the French Multi-Breed Dairy Goat Population.**
C. Carillier[*], H. Larroque and C. Robert-Granié, INRA, UMR 1388 GenPhySE, Castanet-Tolosan, France

4:45 PM 338 **Estimation of Genomic Breeding Values for Milk Yield in UK Dairy Goats.**
S. Mucha[*], R. Mrode, M. Coffey and J. Conington, Scotland's Rural College, Easter Bush, United Kingdom

5:00 PM 339 **Exploring the Genetic Variation between Sarda and Lacaune Dairy Sheep Breeds by Genome Wide Association Study on Economic Traits.**
*A. Carta[*1], M. G. Usai[1], T. Sechi[1], S. Miari[1], S. Sechi[1], S. L. Salaris[1], G. Mulas[1], F. Barillet[2], J. M. Elsen[3] and S. Casu[1], [1]Research Unit: Genetics and Biotechnology, AGRIS Sardinia, Sassari, Italy, [2]INRA, UMR 1388 GenPhySE, Castanet-Tolosan, France, [3]INRA, UMR1388 GenPhySE, Castanet-Tolosan, France*

5:15 PM 340 **Genome Wide Association for Heat Stress Tolerance/Susceptibility in Florida Dairy Goats.**
*A. Zidi[1], H. Abo-Shady[1], A. Molina[1], A. Menéndez-Buxadera[1], M. Sánchez-Rodríguez[1], C. J. Díaz[2], M. J. Carabaño[2] and J. M. Serradilla[*1], [1]Universidad de Córdoba, Córdoba, Spain, [2]INIA, Madrid, Spain*

5:30 PM 341 **Expression of the Ovine Hippocampal Glucocorticoid Receptor (GR) and Mineralcorticoid Receptor, and Adrenal Melanocortin 2 Receptor and GR Genes in Offspring Born to Ewes Supplemented with Fishmeal and Challenged with Endotoxin During Late Pregnancy.**
*R. E. Fisher[*1], M. Or'Rashid[1], O. AlZahal[1], M. Quinton[1], B. W. McBride[1], H. J. Boermans[2] and N. A. Karrow[1], [1]Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada, [2]Department of Biomedical Sciences, University of Guelph, Guelph, ON, Canada*

5:45 PM 342 **Mitochondrial DNA Diversity in Nepalese Goats.**
N. A. Gorkhali[*], Nepal Agriculture Research Council, Kathmandu, Nepal; Chinese Academy of Agriculture Sciences, Beijing, China

Symposium: Genetics of Trait Complexes - Feed Intake and Efficiency
Chair: Donagh P. Berry, Teagasc, Moorepark
Stanley Park Ballroom

4:00 PM 109 **Feed Efficiency in Growing and Mature Animals.**
*D. P. Berry[*1] and J. E. Pryce[2], [1]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [2]Biosciences Research Division, Department of Environment and Primary Industries, Victoria, Australia*

4:30 PM 110 **Lessons Learnt from 25 Years of Feed Efficiency Research in Australia.**
*P. F. Arthur[*1], J. E. Pryce[2] and R. M. Herd[3], [1]NSW Department of Primary Industries, Narellan, NSW, Australia, [2]Biosciences Research Division, Department of Environment and Primary Industries, Victoria, Australia, [3]NSW Department of Primary Industries, Armidale, Australia*

5:00 PM 111 **Selection for Improved Efficiency in Poultry, Progress To-Date and Challenges for the Future.**
*B. J. Wood[*1,2] and O. W. Willems[2], [1]Hybrid Turkeys, Kitchener, ON, Canada, [2]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada*

5:30 PM 112 **An Alternative Approach to Modeling Genetic Merit of Feed Efficiency in Dairy Cattle.**
Y. Lu[*], Michigan State University, East Lansing

5:45 PM 113 **Increasing the Accuracy of Genomic Predictions for RFI in Dairy Cattle through using Genomic Information from Beef Breeds.**
*M. Khansefid[*1,2,3], J. E. Pryce[4], S. Bolormaa[5], S. P. Miller[6], Z. Wang[7], C. Li[7] and M. E. Goddard[8], [1]The University of Melbourne, Melbourne, Australia, [2]Department of Environment and Primary Industries, Melbourne, Australia, [3]Dairy Futures Cooperative Research Centre (CRC), Melbourne, Australia, [4]Biosciences Research Division, Department of Environment and Primary Industries, Victoria, Australia, [5]CRC for Sheep Industry Innovation, Armidale, Australia, [6]Centre for Genetic Improvement of Livestock - University of Guelph, Guelph, ON, Canada, [7]University of Alberta, Edmonton, AB, Canada, [8]The Department of Environment and Primary Industries, Bundoora, Australia*

Symposium: Omics and Swine
Chair: Graham S. Plastow, University of Alberta
Bayshore Grand Ballroom B-C

4:00 PM 355 **New Strategies Accelerating Progress from QTL to QTN: Example of the Identification of Causal Variants underlying Three Complex Traits in Pigs.**
L. Huang[*], Jiangxi Agricultural University, NanChang, China

4:30 PM 356 **SNP Effects Depend on Genetic and Environmental Context.**
*J. W. M. Bastiaansen[*1], H. Bovenhuis[1], M. S. Lopes[1,2], F. F. Silva[3], H. J. Megens[1] and M. P. L. Calus[4], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]TOPIGS Research Center IPG, Beuningen, Netherlands, [3]Universidade Federal de Viçosa, Viçosa, Brazil, [4]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands*

5:00 PM 357 **Beyond Genomic Selection.**
B. P. Kinghorn[*], University of New England, Armidale, Australia

5:30 PM 358 **The Influence of Host's Genetics on the Gut Microbiota Composition in Pigs and its Links with Immunity Traits.**
*J. Estellé[*1], N. Mach[1,2], Y. Ramayo-Caldas[1], F. Levenez[2], G. Lemonnier[1], C. Denis[1], J. Doré[2], C. Larzul[1], P. Lepage[2] and C. Rogel-Gaillard[1], [1]INRA, UMR1313 GABI, Jouy-en-Josas, France, [2]INRA, UMR1319 MICALIS, Jouy-en-Josas, France*

5:45 PM 359 **Genome Wide Perspective of Genetic Variation in Pig Metabolism and Production Traits.**
*L. Fontanesi[*1], S. Bovo[1], G. Mazzoni[1], A. B. Samorè[1], G. Schiavo[1], E. Scotti[1], F. Fanelli[2], F. Bertolini[1], M. Gallo[3], L. Buttazzoni[4], G. Galimberti[5], D. G. Calò[5], M. Mezzullo[2], P. L. Martelli[6], R. Casadio[6], U. Pagotto[2], V. Russo[1] and S. Dall'Olio[1], [1]Department of Agricultural and Food Sciences, University of Bologna, Bologna, Italy, [2]Department of Surgical and Medical Sciences, Endocrinology Unit, University of Bologna, Bologna, Italy, [3]ANAS, Roma, Italy, [4]Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Centro di Ricerca per la Produzione delle Carni e il Miglioramento Genetico, Roma, Italy, [5]Department of Statistical Sciences "Paolo Fortunati", University of Bologna, Bologna, Italy, [6]Biocomputing Group, University of Bologna, Bologna, Italy*

Symposium: Statistical Methods - Linear and Nonlinear Models: Inference
Chair: Daniel Gianola, University of Wisconsin
Bayshore Grand Ballroom E-F

4:00 PM 202 **Statistical Problems in Livestock Population Genomics.**
*H. Simianer[*1], Y. Ma[2] and S. Qanbari[3], [1]Georg-August-University, Göttingen, Germany, [2]China Agricultural University, Beijing, China, [3]Georg-August University, Göttingen, Germany*

4:30 PM 203 **New Methods for Capturing Unidentified Genetic Variation underlying Infectious Disease in Livestock Populations.**

*A. Doeschl-Wilson[*1], D. Lipschutz-Powell[1], O. Anacleto[1], L. A. García-Cortés[2], G. Lough[1], A. Lengeling[1], S. Bergmann[3] and J. A. Woolliams[1], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]SGIT - INIA, Ministerio de Ciencia e Innovación, Madrid, Spain, [3]Helmholtz Centre for Infection Research, Braunschweig, Germany*

5:00 PM 204 **My P Value is Lower than Your P Value! Beyond GWAS in Livestock Genomics.**

*J. Szyda[*1,2], M. Fraszczak[3], R. Giannico[4], S. Kaminski[5], M. Mielczarek[3], G. Minozzi[6], E. L. Nicolazzi[4], T. Suchocki[3], K. Wojdak-Maksymiec[7] and A. Zarnecki[2], [1]Wroclaw Univeristy of Environmental and Life Sciences, Wroclaw, Poland, [2]National Research Institute of Animal Production, Cracow-Balice, Poland, [3]Wroclaw University of Environmental and Life Sciences, Wroclaw, Poland, [4]Fondazione Parco Tecnologico Padano, Lodi, Italy, [5]University of Warmia and Mazury, Olsztyn, Poland, [6]Parco Tecnologico Padano, Lodi, Italy, [7]West Pomeranian University of Technology, Szczecin, Poland*

5:30 PM 205 **Heritability of Complex Human Diseases in the UK Biobank.**

*M. Muñoz[1], R. Pong-Wong[2], C. Haley[3] and A. Tenesa[*4], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Roslin, United Kingdom, [2]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [3]MRC Human Genetics Unit, MRC IGMM, University of Edinburgh, Edinburgh, United Kingdom, [4]The Roslin Institute and R(D)SVS & The MRC Human Genetics Unit, MRC Institute of Genetics and Molecular Medicine, University of Edinburgh, Midlothian, United Kingdom*

Tuesday, August 19, 2014

Plenary Speaker - Tuesday

Chairs: E. John Pollak, USDA, ARS, U.S. Meat Animal Research Center and Filippo Miglior, Canadian Dairy Network and University of Guelph

Bayshore Grand Ballroom

8:30 AM Plenary 2 **Bridging the Gap Between Scientific Facts and Societal Perceptions about Agriculture.**
M. Lohuis[*], Monsanto, St. Louis, MO

Genetics of Trait Complexes - Feed Intake and Efficiency (Cattle)
Chair: Donagh P. Berry, Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark

Bayshore Grand Ballroom B-C

10:30 AM 114 **Mid-Infrared Spectroscopy to Predict Feed Intake and Efficiency in Lactating Dairy Cows.**
*S. McParland[*1], E. Kennedy[1], S. Butler[2], M. O'Donovan[1], B. McCarthy[2], J. E. Pryce[3] and D. P. Berry[2], [1]Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [2]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [3]Biosciences Research Division, Department of Environment and Primary Industries, Victoria, Australia*

10:45 AM 115 **Breeding Value for Dry Matter Intake for Dutch Bulls based on DGV for DMI and BV for Predictors.**
*R. F. Veerkamp[*1], M. P. L. Calus[1], G. de Jong[2], R. van der Linde[3] and Y. de Haas[1], [1]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands, [2]CRV, Arnhem, Netherlands, [3]CRV BV, Arnhem, Netherlands*

11:00 AM 116 **Deriving Genomic Breeding Values for Residual Feed Intake from Covariance Functions of Random Regression Models.**
*A. B. Strathe[*1,2], T. Mark[1], B. Nielsen[2], D. N. Do[1], H. N. Kadarmideen[1] and J. Jensen[3], [1]Department of Clinical Veterinary and Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark, [2]Danish Agriculture & Food Council, Pig Research Centre, Copenhagen, Denmark, [3]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark*

11:15 AM 117 **Collation of Data and Genetic Parameter Estimation in Different Experimental Canadian Beef Cattle Populations Measured for Feed Efficiency.**
J. Crowley[*], University of Alberta, Edmonton, AB, Canada

11:30 AM 118 **Feed Efficiency in Nellore Cattle (Bos indicus): Impact of Molecular Breeding Value Estimation Methods in the Accuracy of Breeding Values Estimates.**
*J. B. S. Ferraz[*1], M. H. A. Santana[1], G. A. Oliveira Jr.[1], F. M. Rezende[2], H. Fukumasu[1], P. A. Alexandre[1], A. S. M. Cesar[3], M. E. Carvalho[1], L. L. Coutinho[4], J. P. Eler[1], E. C. Mattos[1], F. Baldi[5] and D. J. Garrick[6], [1]NAP-GMABT/FZEA/University of Sao Paulo, Pirassununga, Brazil, [2]Federal University of Uberlandia, Patos de Minas, Brazil, [3]LZT/ESALQ/University of Sao Paulo, Piracicaba, Brazil, [4]Universidade de São Paulo/Esalq, Piracicaba, Brazil, [5]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil, [6]Iowa State University, Ames*

11:45 AM 119 **Genome Wide Association Study for Feed Efficiency Traits in Beef Cattle using CNV.**
*G. C. Márquez[*1], J. W. Keele[2], L. A. Kuehn[3], H. C. Freetly[4], A. K. Lindholm-Perry[4] and R. M. Lewis[5], [1]ABS Global, DeForest, WI, [2]USDA-ARS, Clay Center, NE, [3]USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, [4]USDA, ARS, US MARC, Clay Center, NE, [5]University of Nebraska, Licoln, NE*

Methods and Tools - Genome Sequencing
Chair: Ben J. Hayes, Department of Environment and Primary Industries

Bayshore Grand Ballroom D

10:30 AM 175 **Identification and Comparison of MicroRNAs from Mammary Glands from Two Porcine Breeds using Solexa Deep-Sequencing technology.**
J. Peng[*], College of Animal Sciences, Zhejiang University, Hangzhou, China

10:45 AM 176 **Polymorphism and Mobilization of Rransposons in Bos taurus.**
B. Guldbrandtsen[*], G. Sahana and M. S. Lund, Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark

11:00 AM 177 **Consequences of Splitting Sequencing Effort over Multiple Breeds on Imputation Accuracy.**
A. C. Bouwman[*] and R. F. Veerkamp, Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands

11:15 AM 178 **Genomic Predictions using Whole Genome Sequence Data and Multi-breed Reference Populations.**
*O. O. M. Iheshiulor[*1], J. A. Woolliams[2], X. Yu[1], R. Wellmann[3] and T. H. E. Meuwissen[1], [1]Norwegian University of Life Sciences, Ås, Norway, [2]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [3]Institute of Animal Husbandry and Breeding, University Hohenheim, Stuttgart, Germany*

11:30 AM 179 **Fast Imputation using Medium- or Low-Coverage Sequence Data.**
*P. M. VanRaden[*1] and C. Sun[2], [1]Animal Improvement Programs Laboratory, USDA-ARS, Beltsville, MD, [2]National Association of Animal Breeders, Columbia, MO*

11:45 AM 180 **A Gene Expression Atlas From Bovine RNAseq Data.**
A. J. Chamberlain[*], C. Vander Jagt, M. E. Goddard and B. J. Hayes, The Department of Environment and Primary Industries, Bundoora, Australia

Linear and Nonlinear Models: Prediction
Chair: Marco C.A.M. Bink, Wageningen University
Bayshore Grand Ballroom A

10:30 AM 206 **Using Random Forests (RF) To Prescreen Candidate Genes: A New Prospective for GWAS.**
*Y. Li[*1], J. Kijas[1], J. M. Henshall[2], S. A. Lehnert[3], R. McCulloch[4] and A. Reverter-Gomez[4], [1]CSIRO Animal, Food and Health Sciences, Brisbane, Australia, [2]Food Futures Flagship, CSIRO Animal, Food and Health Sciences, Armidale, Australia, [3]CSIRO Food Futures Flagship, Brisbane, Australia, [4]Food Futures Flagship, CSIRO Animal, Food and Health Sciences, Brisbane, Australia*

10:45 AM 207 **Genomic Prediction of Health Traits in Humans: Demonstrating the Value of Marker Selection.**
*M. L. Bermingham[*1], R. Pong-Wong[2], A. Spiliopoulou[1], C. Hayward[1], I. Rudan[3], H. Campbell[3], A. F. Wright[1], J. F. Wilson[3], F. V. Agakov[4], P. Navarro[1] and C. Haley[1,2], [1]MRC Human Genetics Unit, MRC IGMM, University of Edinburgh, Edinburgh, United Kingdom, [2]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [3]Centre for Population Health Sciences, University of Edinburgh, Edinburgh, United Kingdom, [4]Pharmatics Limited, Edinburgh, United Kingdom*

11:00 AM 208 **Extreme Learning Machine: A New Approach for Genomic Prediction of Complex Traits.**
*A. Ehret[*1], D. Hochstuhl[2] and G. Thaller[1], [1]Institute of Animal Breeding and Husbandry, University Kiel, Kiel, Germany, [2]2Institute for Theoretical Physics and Astrophysics, University Kiel, Kiel, Germany*

11:15 AM 209 **Improved Accuracy of Genomic Prediction for Traits with Rare QTL by Fitting Haplotypes.**
X. Sun[*], R. L. Fernando, D. J. Garrick and J. C. M. Dekkers, Iowa State University, Ames

11:30 AM 210 **Correcting For Unequal Sampling in Principal Component Analysis of Genetic Data.**
*W. O. Burgos-Paz[1,2], S. E. Ramos-Onsins[1], M. Perez-Enciso[2] and L. Ferretti[*3], [1]Centre for Research in Agricultural Genomics, Bellaterra, Spain, [2]Universitat Autònoma de Barcelona, Bellaterra, Spain, [3]UMR 7138, UPMC and CIRB, College de France, Paris, France*

11:45 AM 211 **Evaluation of Antedependence Model Performance and Genomic Prediction for Growth in Danish Pigs.**
L. Wang[*], D. Edwards and L. Janss, Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark

Symposium: Breeding of Companion Animals
Chair: Sheila M. Schmutz, University of Saskatchewan
Cypress Room

10:30 AM 276 **Genomic Signatures of Selection in the Modern Horse.**
J. R. Mickelson, J. L. Petersen, S. J. Valberg and M. E. McCue, University of Minnesota, Saint Paul*

11:00 AM 277 **Cat Domestication & Breed Development.**
L. A. Lyons, Department of Veterinary Medicine & Surgery, College of Veterinary Medicine, University of Missouri - Columbia, Columbia, MO*

11:30 AM 278 **Genetic Interactions Among Three Pigmentation Loci in Domestic Dogs.**
S. M. Schmutz and D. L. Dreger, University of Saskatchewan, Saskatoon, SK, Canada*

Symposium: Genetics of Trait Complexes - Lactation
Chair: Juan F. Medrano, University of California
Bayshore Grand Ballroom E-F

10:30 AM 137 **RNA Sequencing for the Analysis of Complex Traits in Milk: Detection of Bacteria.**
J. F. Medrano[1], A. Canovas[2] and A. Islas-Trejo[2], [1]University of California, Davis, [2]University of California, Davis, Davis, CA*

11:00 AM 138 **Functional Variation in the Prolactin Receptor of Pigs.**
R. C. Hovey, A. Schennink, M. K. VanKlompenberg, R. Manjarin and J. F. Trott, University of California, Davis, Davis, CA*

11:30 AM 139 **Rare Genetic Variants and the Regulation of Bovine Milk Composition.**
S. Davis and M. Littlejohn, Livestock Improvement Corporation, Hamilton, New Zealand*

Symposium: Genomic Tools for Mapping QTL and Genes
Chair: Michel Georges, University of Liège
Stanley Park Ballroom

10:30 AM 190 **NGS-based Reverse Genetic Screen Reveals Loss-of-Function Variants Compromising Fertility in Cattle.**
M. Georges[1], C. Charlier[2], W. Li[2], C. Harland[2], M. Littlejohn[3], F. Creagh[4], M. D. Keehan[3], T. Druet[2], W. Coppieters[2] and R. Spelman[3], [1]University of Liège, Liege, Belgium, [2]University of Liège, Liège, Belgium, [3]Livestock Improvement Corporation, Hamilton, New Zealand, [4]LIC, Hamilton, New Zealand*

11:00 AM 191 **Exploiting Whole Genome Sequence Data for the Identification of Causal Trait Variants in Cattle.**
H. Pausch[1], C. Wurmser[1], C. Edel[2], R. Emmerling[2], K. U. Götz[2] and R. Fries[1], [1]Chair of Animal Breeding, Technische Universitaet Muenchen, Freising, Germany, [2]Bavarian State Research Center for Agriculture, Institute of Animal Breeding, Grub, Germany*

11:30 AM 192 **Cis and Trans-Acting eQTL Mapping from RNAseq Data in Swine Populations.**
J. P. Steibel, Michigan State University, East Lansing*

Developments in Beef Cattle Genetics
Chair: David Johnston, University of New England
Bayshore Grand Ballroom A

1:30 PM 238 **The Genetics of Brahman Cow Weight in Northern Australia and its Relationship with Female Reproductive Performance.**
M. L. Wolcott, Animal Genetics and Breeding Unit, Armidale, Australia*

1:45 PM 239 **Genetic Parameter Estimates for Calving Difficulty and Birth Weight in a Multi-breed Population.**
*C. M. Ahlberg[*1], L. A. Kuehn[2], R. M. Thallman[2], S. D. Kachman[3] and M. L. Spangler[1], [1]University of Nebraska, Lincoln, [2]USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, [3]University of Nebraska, Lincoln*

2:00 PM 240 **Estimation of Breed-Specific Heterosis Effects for Birth, Weaning and Yearling Weight in Cattle.**
L. N. Schiermiester[*], University of Nebraska, Lincoln

2:15 PM 241 **Estimated Additive and Non-additive Breed Effects and Genetic Parameters for Ultrasound Scanned Traits of a Multi-breed Beef Population in Tropical Australia.**
G. M. Jeyaruban[*], Animal Genetics and Breeding Unit, Armidale, Australia

2:30 PM 242 **Quantifying Differences in Genetic Merit Between Australian Angus Seedstock Herds.**
S. J. Lee[*], I. K. Nuberg and W. S. Pitchford, School of Animal and Veterinary Sciences, University of Adelaide, Roseworthy, SA, 5371, Australia

2:45 PM 243 **Analysis of US Cow-Calf Producer Survey Data to Assess Knowledge, Awareness and Attitudes Related to Genetic Improvement of Feed Efficiency.**
R. L. Weaber[*], Kansas State University, Manhattan

Selection for Reduced Environmental Impact
Chair: Hutton V. Oddy, NSW Department of Primary Industries
Bayshore Grand Ballroom D

1:30 PM 036 **Progress with Genetic Selection for Low Methane Traits in Dairy Cows.**
*J. Lassen[*1], P. C. Garnsworthy[2], M. G. Chagunda[3], E. Negussie[4], P. Løvendahl[1] and Y. de Haas[5], [1]Center of Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Aarhus, Denmark, [2]The University of Nottingham, Loughborough, United Kingdom, [3]Scottish Rural University College (SRUC), Edinburgh, United Kingdom, [4]MTT Agrifood Research Finland, Biotechnology and Food Research, Jokioinen, Finland, [5]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands*

1:45 PM 037 **Animal Wise Variation in Enteric Methane Output Traits and its Relationship with Feed Efficiency in Dairy Cattle: A Longitudinal Model Analysis.**
*E. Negussie[*1], P. Mäntysaari[2], E. A. Mäntysaari[1] and M. H. Lidauer[1], [1]MTT Agrifood Research Finland, Biotechnology and Food Research, Jokioinen, Finland, [2]MTT Agrifood Research Finland, Animal Production Research, Jokioinen, Finland*

2:00 PM 038 **Genetic Variation for Methane Traits in Beef Cattle.**
*P. F. Arthur[1], R. M. Herd[*2], S. S. Bird[2], K. A. Donoghue[3] and R. S. Hegarty[4], [1]NSW Department of Primary Industries, Narellan, NSW, Australia, [2]NSW Department of Primary Industries, Armidale, Australia, [3]NSW Department of Primary Industries, Trangie, Australia, [4]University of New England, Armidale, Australia*

2:15 PM 039 **Rumen Differences between Sheep Identified as Being Low or High Methane Emitters.**
*W. E. Bain[*1], L. Bezuidenhout[1], N. B. Jopson[2], C. S. Pinares-Patino[3] and J. C. McEwan[4], [1]AgResearch Invermay, Dunedin, New Zealand, [2]Abacusbio, Dunedin, New Zealand, [3]AgResearch, Palmerston North, New Zealand, [4]AgResearch, Invermay, New Zealand*

2:30 PM 040 **Consequences of Selection for Environmental Impact Traits in Dairy Cows.**
*P. B. Kandel[*1], S. Vanderick[1], M. L. Vanrobays[1], A. Vanlierde[2], F. Dehareng[2], E. Froidmont[2], H. Soyeurt[1] and N. Gengler[1], [1]University of Liege, Gembloux Agro-Bio Tech, Gembloux, Belgium, [2]Walloon Agricultural Research Center, Gembloux, Belgium*

Symposium: Breeding in Aquaculture Species
Chair: William S. Davidson, Simon Fraser University
Cypress Room

1:30 PM 267 **Genomics in Selective Breeding of Atlantic Salmon.**
*T. Moen[*1] and J. Ødegård[2], [1]AquaGen AS, Trondheim, Norway, [2]AquaGen, Aas, Norway*

2:00 PM 268 **The Development and Characterization of a 57K SNP Chip for Rainbow Trout.**
*Y. Palti[*1], G. Gao[1], T. Moen[2], S. Liu[1], M. P. Kent[3], S. Lien[3], M. R. Miller[4] and C. E. Rexroad[5], [1]NCCCWA-ARS-USDA, Kearneysville, WV, [2]Aquagen, Aas, Norway, [3]Centre of Integrative Genetics, Aas, Norway, [4]UC Davis, Davis, CA, [5]NCCCWA-ARS-USDA, Kearneysville, WV*

2:30 PM 269 **Evolution of Coho Salmon (*Oncorhynchus kisutch*) Breeding Programs.**
R. Neira[*], University of Chile, Aquainnovo, Santiago, Chile

Symposium: Genomic Prediction Across Populations
Chair: Esa A. Mäntysaari, MTT Agrifood Research Finland
Stanley Park Ballroom

1:30 PM 064 **(A)cross-Breed Genomic Prediction.**
*M. P. L. Calus[*1], H. Huang[1], Y. C. J. Wientjes[2], J. ten Napel[3], J. W. M. Bastiaansen[2], M. D. Price[2], R. F. Veerkamp[2], A. Vereijken[4] and J. J. Windig[1], [1]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands, [2]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [3]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Lelystad, Netherlands, [4]Hendrix Genetics, Boxmeer, Netherlands*

2:00 PM 065 **Across Breed Genomic Predictions in Beef Cattle.**
*M. Saatchi[*1] and D. J. Garrick[1,2], [1]Iowa State University, Ames, [2]Massey University, Palmerston North, New Zealand*

2:30 PM 066 **Across-Breed Genomic Prediction in Dairy Cattle.**
B. L. Harris[*], LIC, Hamilton, New Zealand

Symposium: Genomics of Disease in Swine
Chair: Graham S. Plastow, University of Alberta
Bayshore Grand Ballroom B-C

1:30 PM 360 **Genome-Wide Analysis of the Differential Response to Experimental Challenges with Porcine Circovirus 2b.**
*T. Engle[1], E. Jobman[1], T. Moural[1], A. McKnite[1], S. Barnes[1], E. Davis[1], J. Qiu[1], J. Bundy[1], J. Tart[1], T. Johnson[1], M. F. Rothschild[2], J. Galeota[1], R. K. Johnson[3], G. Plastow[4], S. D. Kachman[3] and D. C. Ciobanu[*3], [1]University of Nebraska, Lincoln, [2]Iowa State University, Ames, [3]University of Nebraska, Lincoln, [4]University of Alberta, Edmonton, AB, Canada*

2:00 PM 361 **Strategies for using Genomics to Improve Swine Resistance to PRRS.**
L. R. Schaeffer[*], Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada

2:30 PM 362 **Improving Pig Genetic Resistance and Muscle Production through Molecular Biology.**
Q. Kang, Y. Hu, Y. Zou, W. Hu, L. Li, F. Chang, Y. Li, D. Lu, Z. Sun, R. Zhang, X. Hu, Q. Li, Y. Dai and N. Li[*], State Key Laboratory for Agrobiotechnology, China Agricultural University, Beijing, China

Variance Components and Indicators of Disease Resistance
Chair: Nathalie Mandonnet, INRA-UR0143, INRA Antilles-Guyane
Bayshore Grand Ballroom E-F

1:30 PM 094 **A Genome-Wide Association Study of Immune Response in Holstein Bulls.**
*K. A. Thompson-Crispi[1,2], M. Sargolzaei[3,4], F. Miglior[2,5], F. S. Schenkel[2] and B. Mallard[*1,2], [1]Dept Pathobiology, University of Guelph, Guelph, ON, Canada, [2]Center for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [3]The Semex Alliance, Guelph, ON, Canada, [4]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [5]Canadian Dairy Network, Guelph, ON, Canada*

1:45 PM 095 **Longitudinal Analysis of Somatic Cell Count for Joint Genetic Evaluation of Mastitis and Recovery Liability.**
*B. G. Welderufael[*1,2], D. J. D. Koning[1], L. Janss[2], J. Franzén[3] and W. F. Fikse[1], [1]Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden, [2]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [3]Department of Statistics, Stockholm University, Stockholm, Sweden*

2:00 PM 096 **Genetics of Tolerance and Resistance to Nematode Infection in Sheep.**
*H. Rashidi[*1], H. A. Mulder[1], J. A. M. van Arendonk[1], M. C. M. de Jong[2] and M. J. Stear[3], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]Quantitative Veterinary Epidemiology Group, Wageningen University, Wageningen, Netherlands, [3]Veterinary School, Glasgow University, Glasgow, United Kingdom*

2:15 PM 097 **Variance Components and Genome Wide Association Analysis of Mycobacterium bovis Infection in Dairy and Beef Cattle.**
*I. Richardson[*1], H. Wiencko[2], D. Bradley[3], S. J. More[4], I. M. Higgins[4] and D. P. Berry[1], [1]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [2]Trinity College Dublin, Dublin 2, Ireland, [3]Department of Genetics, Trinity College Dublin, Dublin, Ireland, [4]University College Dublin, Dublin, Ireland*

2:30 PM 098 **Plasma Components as Traits for Resistance to Coccidiosis in Chicken.**
*E. Hamzic[*1,2,3], B. Bed'Hom[2,4], H. Juin[5], R. Hawken[6], M. S. Abrahamsen[6], J. M. Elsen[7], B. Servin[8], M. H. Pinard-van der Laan[1,2] and O. Demeure[9,10], [1]INRA, UMR1313 GABI, Jouy-en-Josas, France, [2]AgroParisTech, UMR1313 GABI, Paris, France, [3]Department of Molecular Biology and Genetics, Aarhus University, Foulum, Denmark, [4]INRA UMR1313 GABI, Jouy-en-Josas, France, [5]INRA, UE1206 EASM, Surgères, France, [6]Cobb-Vantress Inc., Siloam Springs, AR, [7]INRA, UMR1388 GenPhySE, Castanet-Tolosan, France, [8]INRA, Castanet-Tolosan, France, [9]Agrocampus Ouest, UMR1348 PEGASE, Rennes, France, [10]INRA, UMR1348 PEGASE, Saint-Gilles, France*

2:45 PM 099 **Genetic Parameters for Resistance to Parasites in Nellore Cattle through Random Regression.**
T. L. Passafaro[*], L. L. Santos, F. S. S. Raidan, M. M. Morais, J. P. C. Botero, R. C. Leite and F. L. B. Toral, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil

Genetics of Trait Complexes - Reproduction
Chair: Jennie E. Pryce, Department of Environment and Primary Industries
Bayshore Grand Ballroom D

4:00 PM 146 **A 660-Kb Deletion with Antagonistic Effects on Fertility and Milk Production Segregates at High Frequency in Nordic Red Cattle: Additional Evidence for the Common Occurrence of Balancing Selection in Livestock.**
*N. K. Kadri[*1,2], G. Sahana[2], C. Charlier[1], I. T. Terhi[3], B. Guldbrandtsen[2], L. Karim[1], U. S. Nielsen[4], F. Panitz[5], G. P. Aamand[6], N. Schulman[3], M. Georges[1], J. Vilkki[3], M. S. Lund[2] and T. Druet[1], [1]University of Liège, Liège, Belgium, [2]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [3]MTT Agrifood Research Finland, Biotechnology and Food Research, Jokioinen, Finland, [4]Knowledge Center for Agriculture, Aarhus, Denmark, [5]Dept. Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [6]Nordic Cattle Genetic Evaluation, Aarhus, Denmark*

4:15 PM 147 **A Gene Network Inferred from Genome-wide Association: Prioritization of QTLs Associated with Tropical Cattle Reproduction.**
*L. R. Porto-Neto[*1], M. R. Fortes[2], M. J. Kelly[3], S. A. Lehnert[1] and A. Reverter-Gomez[1], [1]CSIRO Food Futures Flagship, Brisbane, Australia, [2]The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, St Lucia, Australia, [3]The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, Brisbane, Australia*

4:30 PM 148 **Using Genome-Wide Data for Detecting Inbreeding Depression in Eeproductive Traits in Iberian pigs.**
*B. Villanueva[*1], M. Saura[1], A. Fernandez[1], L. Varona[2], A. Fernandez[1], A. de Cara[3] and C. Barragan[1], [1]INIA, Madrid, Spain, [2]Universidad de Zaragoza, Zaragoza, Spain, [3]Museum National d'Histoire Naturelle, Paris, France*

4:45 PM 149 **Effect of Selection for Residual Variance of Litter Size on Components of Litter Size in Rabbits.**
*M. J. Argente[*1], M. D. L. L. Garcia[1] and A. Blasco[2], [1]Universidad Miguel Hernández de Elche, Orihuela, Spain, [2]Universidad Politecnica De Valencia, Valencia, Spain*

5:00 PM 150 **Evaluating Genetic Variance of Reproductive Traits across Ten Years of Selection in the Turkey (Meleagris gallopavo).**
*J. Proulx[*1], O. W. Willems[1] and B. J. Wood[2], [1]Centre for the Genetic Improvement of Livestock, Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada, [2]Hybrid Turkeys, Kitchener, ON, Canada*

5:15 PM 151 **Genetic Parameters for Endocrine Fertility Traits from In-line Milk Progesterone Records in Dairy Cows.**
*A. M. M. Tenghe[*1,2], A. C. Bouwman[1], B. Berglund[3], E. Strandberg[3] and R. F. Veerkamp[1,2], [1]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands, [2]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [3]Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden*

5:30 PM 152 **Causal Relationships Between Milk Yield, Body Condition Score and Fertility in Italian Holstein Friesian Dairy Cattle.**
*M. Battagin[*1], F. Tiezzi[2], M. Cassandro[3] and C. Maltecca[2], [1]Italian Holstein Friesian Cattle Breeders Association, Cremona, Italy, [2]North Carolina State University, Raleigh, [3]Department of Agronomy, Food, Natural resources, Animals and Environment, University of Padova, Legnaro, Italy*

5:45 PM 153 **Genetic Relationships of Fertility Disorders with Reproductive Traits in Canadian Holsteins.**
*A. Koeck[*1], F. Miglior[2,3], J. Jamrozik[2], D. F. Kelton[4] and F. S. Schenkel[2], [1]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [2]Center for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [3]Canadian Dairy Network, Guelph, ON, Canada, [4]Department of Population Medicine, Ontario Veterinary College, University of Guelph, Guelph, ON, Canada*

Integrating the Discovery and Usage of Functional Mutations into Dairy Genomic selection Programs for Complex Traits
Chair: Hermann Swalve, Martin Luther University Halle-Wittenberg
Bayshore Grand Ballroom A

4:00 PM 288 **CEACAM18 as Candidate for the Holstein Calving QTL on BTA18.**
X. Mao[*], Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark

4:15 PM 289 **Using Haplotypes to Unravel the Inheritance of Holstein Coat Color.**
T. J. Lawlor[*], Holstein Association USA Inc., Brattleboro, VT

4:30 PM 290 **Performance of Single Markers vs. Haplotypes to Identify Genomic Loci Associated With Mastitis Resistance in German Holstein Cattle.**
*H. Abdel-Shafy[*1,2], R. H. Bortfeldt[2], J. Tetens[3], G. Thaller[4] and G. A. Brockmann[2], [1]Department of Animal Production, Faculty of Agriculture, Cairo University, Cairo, Egypt, [2]Department for Crop and Animal Sciences, Humboldt-Universität zu Berlin, Berlin, Germany, [3]Institute of Animal Breeding and Husbandry, Christian-Albrechts-Universität zu Kiel, Kiel, Germany, [4]Institute of Animal Breeding and Husbandry, University Kiel, Kiel, Germany*

4:45 PM 291 **Increasing Predictive Ability using Dominance in Genomic Selection.**
*C. Sun[*1], P. M. VanRaden[2], J. B. Cole[3] and J. O'Connell[4], [1]National Association of Animal Breeders, Columbia, MO, [2]Animal Improvement Programs Laboratory, USDA-ARS, Beltsville, MD, [3]Animal Improvement Programs Laboratory, Agricultural Research Service, United States Department of Agriculture, Beltsville, MD, [4]University of Maryland School of Medicine, Baltimore, MD*

5:00 PM 292 **Prenatal Maternal Genetic, Permanent Environmental And Paternal Epigenetic Effects In New Zealand Dairy Cattle.**
*B. Gudex[*1,2], D. Johnson[1], C. Gondro[3] and K. Singh[4], [1]LIC, Hamilton, New Zealand, [2]University of New England, Armidale, Australia, [3]School of Environmental & Rural Science, University of New England, Armidale, Australia, [4]AgResearch Ltd, Ruakura Research Centre, Hamilton, New Zealand*

5:15 PM 293 **Laminitis-Related Claw Disorders in Dairy Cattle: A Genome-Wide Association Study.**
D. Van der Spek[*], J. A. M. van Arendonk and H. Bovenhuis, Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands

5:30 PM 294 **Genetic Evaluation of Survival Traits in German Holstein Dairy Cattle using a Six-Trait Linear Model.**
J. Wiebelitz[*], Vereinigte Informationssysteme Tierhaltung w.V. (vit), Verden, Germany

5:45 PM 295 **Genetic Analysis of Longevity in Dutch Dairy Cattle using Random Regression.**
*M. L. van Pelt[*1,2] and R. F. Veerkamp[1], [1]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands, [2]CRV, Arnhem, Netherlands*

Sheep and Goats Breeding (2)
Chair: Julius H.J. van der Werf, CRC for Sheep Industry Innovation
Cypress Room

4:00 PM 343 **Production Benefits of Breeding for Worm Resistance in Merino sheep in a Mediterranean Environment.**
J. Greeff[*], Department of Agriculture and Food Western Australia, Perth, Australia

4:15 PM 344 **Assessment of Changes in Estimated Breeding Values Caused by Varying Genetic Connectedness between Two Flocks.**
B. Visser[*], AbacusBio Limited, Dunedin, New Zealand

4:30 PM 345 **Genetic Parameters Revisited for Ultrasound Scanning Traits in Australian Sheep.**
S. Mortimer[*], NSW DPI, Trangie, Australia

4:45 PM 346 **Is Variation in Growth Trajectories genetically correlated with Meat quality Traits in Australian Terminal Lambs?.**
*C. A. de Hollander[*1,2], N. Moghaddar[2,3], K. R. Kelman[2,4], G. E. Gardner[2,5] and J. van der Werf[6], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]Cooperative Research Centre for Sheep Industry Innovation, Armidale, Australia, [3]School of Environmental and Rural Science, University of New England, Armidale, Australia, [4]Murdoc University, School of Veterinary and Life Sciences, Western Australia, Australia, [5]School of Veterinary and Biomedical Science, Murdoch University, Murdoch, Australia, [6]University of New England, Armidale, Australia*

5:00 PM 347 **Exploring Genotype x Environment Interaction and Heritabilities for a Reproduction Trait in Merino Sheep using Three Approaches.**
*S. Dominik[*1], J. E. Newton[2], B. J. Hayes[3] and J. van der Werf[4], [1]CSIRO Animal Food and Health Sciences, Armidale, Australia, [2]Animal Genetics and Breeding Unit, UNE, Armidale, Australia, [3]The Department of Environment and Primary Industries, Bundoora, Australia, [4]University of New England, Armidale, Australia*

5:15 PM 348 **Evaluating Sires from Commercial Progeny Data using Pooled DNA.**
*A. M. Bell[*1], J. M. Henshall[2], R. McCulloch[3] and J. Kijas[4], [1]CSIRO Animal, Health and Food Sciences, Armidale, Australia, [2]Food Futures Flagship, CSIRO Animal, Food and Health Sciences, Armidale, Australia, [3]Food Futures Flagship, CSIRO Animal, Food and Health Sciences, Brisbane, Australia, [4]CSIRO Animal, Food and Health Sciences, Brisbane, Australia*

5:30 PM 349 **Introgression of Wool-Shedding Genes into the Romane Breed Sheep.**
*D. Allain[*1], B. Pena[1], D. Foulquié[2], Y. Bourdillon[3] and D. François[4], [1]INRA, UMR1388 GenPhySE, Toulouse, France, [2]INRA UE03321, La Fage, France, [3]INRA UE0322, La Sapinière, Bourges, France, [4]INRA UMR1388 GenPhySE, Toulouse, France*

5:45 PM 350 **Genetic Analysis of Lamb Survival in a Crossbred Population.**
*V. Cardoso Ferreira[*1], G. J. M. Rosa[1] and D. L. Thomas[2], [1]University of Wisconsin, Madison, [2]University of Wisconsin-Madison, Department of Animal Sciences, Madison, WI*

Symposium: Breeding Objectives and Economics of Breeding Schemes
Chair: Jack C. M. Dekkers, Iowa State University
Stanley Park Ballroom

4:00 PM 007 **Pig Breeding Goals in Competitive Markets.**
P. W. Knap[*], Genus-PIC, Schleswig, Germany

4:30 PM 008 **Breeding Goals and Phenotyping Programs for Multi-Trait Improvement in the Genomics Era.**
*J. C. M. Dekkers[*1] and J. van der Werf[2], [1]Iowa State University, Ames, [2]School of Environmental & Rural Science, University of New England, Armidale, Australia*

5:00 PM 009 **Who Benefits from Genetic Improvement?.**
R. Banks[*], University of New England, Armidale, Australia

5:30 PM 010 **Comparison of Different Methods to Calculate a Total Merit Index - Results of a Simulation Study.**
*C. Fuerst[*1], C. Pfeiffer[2], H. Schwarzenbacher[1], F. Steininger[1] and B. Fuerst-Waltl[3], [1]ZuchtData EDV-Dienstleistungen GmbH, Vienna, Austria, [2]University of Natural Resources and Life Sciences, Vienna, Austria, [3]University of Natural Resources and Life Sciences (BOKU), Vienna, Austria*

5:45 PM 011 **Economic and Environmental Impacts of Improving Growth Rate and Feed Efficiency in Fish Farming Depend on Nitrogen and Density Limitation.**
*M. Besson[*1,2,3], H. Komen[1], M. Vandeputte[3], J. Aubin[4], I. de Boer[5] and J. A. M. van Arendonk[1], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]AgroParisTech, Paris, France, [3]INRA, Jouy en Josas, France, [4]INRA, Rennes, France, [5]Animal Production Systems group, Wageningen University, Wageningen, Netherlands*

Symposium: Developments in Beef Cattle Genetics
Chair: Stephen P. Miller, AgResearch
Bayshore Grand Ballroom B-C

4:00 PM 244 **Developments in Genetic Prediction of Carcase Merit in Limousin Beef Cattle in the UK.**
K. Moore[*], T. Pritchard, S. Wilkinson, R. Mrode, F. Pearston, K. Kaseja, E. Wall and M. P. Coffey, SRUC, Edinburgh, United Kingdom

4:30 PM 245 **Large Effects on Birth Weight Follow Inheritance Pattern Consistent with Gametic Imprinting and X Chromosome.**
*R. M. Thallman[*1], J. A. Dillon[2], J. O. Sanders[3], A. D. Herring[3] and D. G. Riley[3], [1]USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, [2]Department of Animal Science, Pennsylvania State University, University Park, [3]Texas A&M University, College Station*

5:00 PM 246 **Genetic Improvement of Reproduction in Beef Cattle.**
D. Johnston[*], Animal Genetics and Breeding Unit, University of New England, Armidale, Australia

5:30 PM 247 **Partitioning of Multiple-Trait Model Parameters with Respect to Phenotypic Recursion: Case Study of Birth Weight and Calving Ease in Canadian Simmentals.**
J. Jamrozik[*], Center for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada

5:45 PM 248 **Benefits of Interbeef International Genetic Evaluations for Weaning Weight.**
*E. Venot[*1], T. Pabiou[2], E. Hjerpe[3], M. Nilforooshan[3], A. Launay[4] and B. Wickham[5], [1]INRA UMR 1313 GABI, Jouy-en-Josas, France, [2]Irish Cattle Breeding Federation, Cork, Ireland, [3]Interbull center, Uppsala, Sweden, [4]Institut de l'Elevage, Paris, France, [5]ConsultWickham, Clonakilty, Ireland*

Symposium: Statistical Methods - Linear and Nonlinear Models: Prediction
Chair: Marco C.A.M. Bink, Wageningen University
Bayshore Grand Ballroom E-F

4:00 PM 212 **Genome-enabled Prediction of Complex Traits with Kernel Methods: What Have We Learned?.**
*D. Gianola[*1], G. Morota[1] and J. Crossa[2], [1]University of Wisconsin, Madison, [2]CIMMYT, El Batan, Mexico*

4:30 PM 213 **Integration of Multi-Layer Omic Data for Prediction of Disease Risk in Humans.**
A. I. Vazquez[*], H. W. Wiener, S. Shrestha, H. K. Tiwari and G. de los Campos, University of Alabama at Birmingham, Birmingham, AL

5:00 PM 214 **Disentangling Pleiotropy along the Genome using Sparse Latent Variable Models.**
L. Janss[*], Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark

5:30 PM 215 **Efficiency of Variable Selection in Genome-Wide Prediction for Traits of Different Genetic Architecture.**
*C. C. Schoen[*1] and V. Wimmer[2], [1]Technical University Munich, Freising, Germany, [2]KWS SAAT AG, Einbeck, Germany*

Wednesday, August 20, 2014

Plenary Speaker - Wednesday

Chairs: E. John Pollak, USDA, ARS, U.S. Meat Animal Research Center and Filippo Miglior, Canadian Dairy Network and University of Guelph

Bayshore Grand Ballroom

8:30 AM Plenary 3 **Phylogenies Meet Quantitative Genetics: Some Attempts to Extrapolate.**
J. Felsenstein[*], Department of Genome Sciences and Department of Biology, University of Washington, Seattle, WA

Developing Effective Dairy Genomic Selection Programs for Traits or Breeds that Lack Massive Reference Populations

Chair: Christian Maltecca, North Carolina State University

Bayshore Grand Ballroom E-F

10:30 AM 296 **On the Value of the Phenotypes in the Genomic Era.**
*O. Gonzalez-Recio[*1], M. Coffey[2] and J. E. Pryce[3], [1]Department of Environment and Primary Industries, Bundoora, Australia, [2]Scotland's Rural College, Easter Bush, United Kingdom, [3]Biosciences Research Division, Department of Environment and Primary Industries, Victoria, Australia*

10:45 AM 297 **Are Evaluations on Young Genotyped Dairy Bulls Benefiting from the Past Generations?**
*D. Lourenco[*1], I. Misztal[1], S. Tsuruta[1], I. Aguilar[2], T. J. Lawlor[3] and J. I. Weller[4], [1]University of Georgia, Athens, [2]INIA, Las Brujas, Uruguay, [3]Holstein Association USA Inc., Brattleboro, VT, [4]ARO, The Volcani Center, Bet Dagan, Israel*

11:00 AM 298 **Analyses of Functional Traits with Indicator Traits to improve genomic reliability in Australian Holstein Cattle using Domestic Daughter Deviation or De-Regressed Proofs as Response Variable.**
*M. M. Haile-Mariam[*1], J. E. Pryce[2] and B. J. Hayes[3], [1]Bioscience Research Division, Bundoora, Australia, [2]Biosciences Research Division, Department of Environment and Primary Industries, Victoria, Australia, [3]Department of Environment and Primary Industries, Bundoora, Australia*

11:15 AM 299 **Integrate Cow and Bull Data in a Genomic Evaluation for Conformation Traits and Claw Health.**
*G. C. B. Schopen[*1], P. J. A. Vessies[1], M. P. L. Calus[2], C. Schrooten[1] and S. A. P. W. de Roos[1], [1]CRV, Arnhem, Netherlands, [2]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands*

11:30 AM 300 **Predictive Ability of Genomic Breeding Values for Corkscrew Claw in Norwegian Red.**
*C. Ødegård[*1,2], M. Svendsen[1] and B. Heringstad[1,2], [1]Geno, Ås, Norway, [2]Norwegian University of Life Sciences, Ås, Norway*

11:45 AM 301 **Increasing the Number of Single Nucleotide Polymorphisms Used in Genomic Evaluations of Dairy Cattle.**
*G. R. Wiggans[*1], T. A. Cooper[1], D. J. Null[2] and P. M. VanRaden[1], [1]Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD, [2]Animal Improvement Programs Laboratory, Agricultural Research Service, United States Department of Agriculture, Beltsville, MD*

Poultry Breeding (1)

Chair: Hans H. Cheng, USDA, ARS, ADOL

Cypress Room

10:30 AM 317 **Comparison of Empirical and Theoretical Responses to Selection Against Mortality due to Cannibalism in Layers.**
*E. D. Ellen[*1], J. Visscher[2] and P. Bijma[1], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]Institut de Sélection Animale B.V., Hendrix Genetics, Boxmeer, Netherlands*

10:45 AM 318 **Evidence of Genetic Relationships Between Sociality, Emotional Reactivity and Production Traits in Japanese Quail.**
*J. Recoquillay[1], C. Leterrier[2], L. Calandreau[2], A. Bertin[2], F. Pitel[3], D. Gourichon[4], A. Vignal[5], C. Beaumont[1], E. Le Bihan-Duval[*1] and C. Arnould[2], [1]INRA, UR83 Recherches Avicoles, Nouzilly, France, [2]INRA, UMR85 Physiologie de la Reproduction et des Comportements, Nouzilly, France, [3]UMR 1388 INRA / INPT ENSAT / INPT ENVT, GenPhySE, Castanet-Tolosan, France, [4]UE1295 Pôle d'Expérimentation Avicole de Tours, Nouzilly, France, [5]INRA UMR1388 GenPhySe, Castanet-Tolosan, France*

11:00 AM 319 **Genetic Parameters for Feather Pecking and Aggressive Behavior in Laying Hens using Poisson and Linear Models.**
*V. Grams[*1], W. Bessei[1], H. P. Piepho[2] and J. Bennewitz[3], [1]Institute of Animal Husbandry and Breeding, University Hohenheim, Hohenheim, Germany, [2]Institute of Crop Science, University of Hohenheim, Hohenheim, Germany, [3]Institute of Animal Husbandry and Breeding, University Hohenheim, Stuttgart, Germany*

11:15 AM 320 **A Genome Wide Association Analysis Confirms a Complex, Polygenic Determinism of Resistance to Salmonella Carrier-State in Chicken.**
*F. Calenge[*1], A. Vignal[2], B. Bed'Hom[1], P. Kaiser[3], P. Menanteau[4], P. Velge[4] and C. Beaumont[5], [1]INRA UMR1313 GABI, Jouy-en-Josas, France, [2]INRA UMR1388 GenPhySe, Castanet-Tolosan, France, [3]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [4]INRA UMR1282 ISP, Nouzilly, France, [5]INRA UR083 URA, Nouzilly, France*

11:30 AM 321 **Identification of SNP Markers for Resistance to *Salmonella* and IBDV in Indigenous Ethiopian Chickens.**
*A. Psifidi[*1], G. Banos[1,2], O. Matika[1], T. Dessie[3], R. Christley[4], P. Wigley[4], J. Bettridge[4], O. Hanotte[5], T. Desta[5] and P. Kaiser[1], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]Scotland's Rural College, Edinburgh, United Kingdom, [3]International Livestock Research Institute, Addis Abeba, Ethiopia, [4]Institute of Infection & Global Health, University of Liverpool, Liverpool, United Kingdom, [5]School of life Sciences, University of Nottingham, Nottingham, United Kingdom*

11:45 AM 322 **Genomic Evaluation for Egg Weight in Crossbred Layers Receiving Various Diets.**
*H. Chapuis[1], F. Hérault[2,3], A. Varenne[4], H. Romé[2,3], C. Alleno[5], P. Dehais[6], A. Vignal[6], T. Burlot[4] and P. Le Roy[*2,3], [1]SYSAAF, Nouzilly, France, [2]Agrocampus Ouest UMR1348 PEGASE, Rennes, France, [3]INRA UMR1348 PEGASE, Saint-Gilles, France, [4]Novogen, Le Foeil, France, [5]Zootests, Ploufragan, France, [6]INRA UMR1388 GenPhySe, Castanet-Tolosan, France*

Statistical Methods for Genomic Prediction
Chair: Roel F. Veerkamp, Wageningen University
Bayshore Grand Ballroom B-C

10:30 AM 067 **Genomic Prediction using a Weighted Relationship Matrix to Account for Trait Architecture in US Holstein Cattle.**
F. Tiezzi[*] and C. Maltecca, North Carolina State University, Raleigh

10:45 AM 068 **Hierarchical Quantitative Genetic Model using Genomic Information.**
G. Gorjanc[*], J. A. Woolliams and J. M. Hickey, The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom

11:00 AM 069 **Comparison of Some Equivalent Equations to Solve Single-Step GBLUP.**
*I. Strandén[*1] and E. A. Mäntysaari[2], [1]MTT Agrifood Research Finland, Biotechnology and Food Research, Jokioinen, Finland, [2]MTT Agrifood Research Finland, Jokioinen, Finland*

11:15 AM 070 **Semi-Supervised Learning Combining Phenotyped and Non-Phenotyped Individuals for Enhancing Prediction in Residual Feed Intake.**
*C. Yao[*1], X. Zhu[2] and K. A. Weigel[1], [1]University of Wisconsin, Madison, [2]Department of Computer Science University of Wisconsin, Madison*

11:30 AM 071 **A Single Step SNP Model Applied to Test-Day Data of Dairy Cows.**
Z. Liu[*], vit Germany, Verden, Germany

11:45 AM 072 **Haplotype Based Genome-Enabled Prediction of Traits Across Nordic Red Cattle Breeds.**
B. Castro Dias Cuyabano[*], Aarhus University, Tjele, Denmark

Swine Breeding (1)
Chair: Brian P. Kinghorn, University of New England
Bayshore Grand Ballroom D

10:30 AM 363 **Consequences of Selection for Indirect Genetic Effect for Growth in Pigs on Behavior and Production.**
*I. Camerlink[*1], N. Duijvesteijn[1,2], W. W. Ursinus[1,3], J. E. Bolhuis[1] and P. Bijma[4], [1]Wageningen University, Wageningen, Netherlands, [2]TOPIGS Research Center IPG B.V., Beuningen, Netherlands, [3]Wageningen UR Livestock Research, Lelystad, Netherlands, [4]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands*

10:45 AM 364 **Genetic Analysis of Skin Lesion Traits in Pigs and their Relationship with Growth Traits.**
*S. Desire[*1], S. P. Turner[1], C. R. G. Lewis[2], R. B. D'Eath[1], A. Doeschl-Wilson[3] and R. Roehe[1], [1]SRUC, Edinburgh, United Kingdom, [2]PIC Europe, Nantwich, United Kingdom, [3]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom*

11:00 AM 365 **Genetic Relationships between Measures of Sexual Development, Boar Taint, Health and Aggressiveness in Pigs.**
*S. Parois[1], A. Prunier[1], M. J. Mercat[2], N. Muller[3], E. Merlot[1] and C. Larzul[*4], [1]INRA, Saint-Gilles, France, [2]IFIP, Le Rheu, France, [3]INRA, Le Rheu, France, [4]INRA, UMR1313 GABI, Jouy-en-Josas, France*

11:15 AM 366 **Genetic Control of Skatole in Intact Boars is Dependent on the Actual Androstenone Level.**
*J. ten Napel[*1], P. K. Mathur[2], H. A. Mulder[3] and E. F. Knol[2], [1]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Lelystad, Netherlands, [2]TOPIGS Research Center IPG, Beuningen, Netherlands, [3]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands*

11:30 AM 367 **Maternal Genetic Effects for Lifetime Growth Should be Considered More in Pig Breeding.**
*S. Hermesch[*1], C. R. Parke[2], M. M. Bauer[2] and H. Gilbert[1,3], [1]AGBU - University of New England, Armidale, NSW, Australia, [2]University of Queensland, Gatton QLD, Australia, [3]INRA UMR1388, F-31326 Castanet-Tolosan, France*

11:45 AM 368 **Nurse Capacity in Crossbred Sows and Genetic Correlation to Purebred Fertility.**
*B. Nielsen[*1], I. Velander[1], T. Ostersen[1], M. A. Henryon[1] and O. F. Christensen[2], [1]Pig Research Centre, Copenhagen, Denmark, [2]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark*

Symposium: Education and Training
Chair: Ronald M. Lewis, University of Nebraska
Bayshore Grand Ballroom A

10:30 AM 222 **Filling the Knowledge Gap: Integrating Quantitative Genetics and Genomics in Graduate Education and Outreach.**
*R. M. Lewis[*1,2], M. L. Spangler[3], B. B. Lockee[4], R. M. Enns[5], K. J. Enns[5], J. C. M. Dekkers[6], C. Maltecca[7], J. P. Cassady[8], M. D. MacNeil[9,10], C. A. Gould[10], D. L. Boggs[10], I. Misztal[11] and E. J. Pollak[12], [1]Virginia Tech, Blacksuburg, VA, [2]University of Nebraska, Lincoln, [3]University of Nebraska, Lincoln, [4]Virginia Tech, Blacksburg, [5]Colorado State University, Fort Collins, [6]Iowa State University, Ames, [7]North Carolina State University, Raleigh, [8]South Dakota State University, Brookings, [9]Delta G, Montana, MT, [10]Kansas State University, Manhattan, [11]University of Georgia, Athens, [12]USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE*

11:00 AM 223 **Interdisciplinarity, Internationalization, Interculturality: Three Challenges of Training in Animal Breeding and Genetics in Europe.**
*E. Verrier[*1] and H. Thomas[2], [1]INRA UMR 1313 GABI, Jouy en Josas, France, [2]AgroParisTech, Paris, France*

11:30 AM 224 **Training and Human Capacity Development in Australasia, S. and S.E. Asia and Sub-Saharan Africa.**
*J. Gibson[*1], E. O. Rege[2] and M. G. Chagunda[3], [1]University of New England, Armidale, Australia, [2]PICO- Eastern Africa, Nairobi, Kenya, [3]Scottish Rural University College (SRUC), Edinburgh, United Kingdom*

Symposium: Selection for Reduced Environmental Impact Chair: Paul Boettcher, FAO

Stanley Park Ballroom

10:30 AM 041 **Breeding Ruminants that Emit Less Methane – The Role of International Collaboration.**
*H. V. Oddy[*1], Y. de Haas[2], J. A. Basarab[3], K. M. Cammack[4], B. J. Hayes[5], R. S. Hegarty[6], J. Lassen[7], J. C. McEwan[8], S. P. Miller[8], C. S. Pinares-Patino[9], G. Shackell[8], P. Vercoe[10] and N. K. Pickering[11], [1]NSW Department of Primary Industries, Armidale, NSW, Australia, [2]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands, [3]Alberta Agriculture and Rural Development, Lacombe, AB, Canada, [4]Department of Animal Science, University of Wyoming, Laramie, WY, [5]Department of Environment and Primary Industries, Bundoora, Australia, [6]University of New England, Armidale, NSW, Australia, [7]Center of Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Aarhus, Denmark, [8]AgResearch, Invermay, New Zealand, [9]AgResearch, Palmerston North, New Zealand, [10]University of Western Australia, Perth, WA, Australia, [11]AgResearch, Mosgiel, New Zealand*

11:00 AM 042 **Genetic Improvement Options for the Cost Effective Reduction of Greenhouse Gas Emissions from Ruminant Production Systems.**
E. Wall[*], V. Eory, M. MacLeod and D. Moran, SRUC, Edinburgh, United Kingdom

11:30 AM 043 **Genomic Selection as a Tool to Decrease Greenhouse Gas Emission from Dual Purpose New Zealand Sheep.**
*S. J. Rowe[*1], J. C. McEwan[1], S. M. Hickey[2], R. A. Anderson[1], D. Hyndman[1], E. A. Young[1], H. Baird[1], K. G. Dodds[1], C. S. Pinares-Patino[3] and N. K. Pickering[1], [1]AgResearch, Mosgiel, New Zealand, [2]AgResearch, Hamilton, New Zealand, [3]AgResearch, Palmerston North, New Zealand*

Thursday, August 21, 2014

Plenary Speaker - Thursday

Chairs: E. John Pollak, USDA, ARS, U.S. Meat Animal Research Center and Filippo Miglior, Canadian Dairy Network and University of Guelph

Bayshore Grand Ballroom

8:30 AM Plenary 4 **Quantitative Genetics of Complex Traits in Human Populations.**
P. Visscher, Queensland Brain Institute, University of Queensland Diamantina Institute, Brisbane, Australia*

Education and Training

Chair: Ronald M. Lewis, University of Nebraska

Cypress Room

10:30 AM 225 **Research Trainee Participation is a Bonus to Teaching Aims in the Bovine Respiratory Disease Complex Coordinated Agricultural Project.**
M. G. Thomas[*1], N. F. Berge[1], R. M. Enns[1], R. Hagevoort[2], T. T. Ross[3], A. L. Van Eenennaam[4], H. L. Neibergs[5], J. S. Neibergs[5] and J. E. Womack[6], [1]Colorado State University, Department of Animal Sciences, Fort Collins, [2]New Mexico State University, Clovis, NM, [3]New Mexico State University, Las Cruces, NM, [4]University of California, Davis, [5]Washington State University, Pullman, [6]Texas A&M University, College Station*

10:45 AM 226 **Attracting and Retaining Minorities in the Biomedical Sciences Including Genomics: A Community-Based Approach.**
E. Smith, D. Bevan, F. A. McNabb and K. DePauw, Virginia Tech, Blacksburg*

11:00 AM 227 **DNA Subway – An Educational Bioinformatics Platform for Gene and Genome Analysis: DNA Barcoding, and RNA-Seq.**
J. Williams, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY*

11:15 AM 228 **A Massive Open Online Course on Genetic Counseling for Animals.**
J. Detilleux, P. Martin, H. Amory, C. Clercx, C. Delguste, M. Laitat, A. S. Lequarré, D. Peeters, A. Sartelet and J. van De Poel, University of Liege, Liege, Belgium*

11:30 AM 229 **How to Teach Animal Breeding and Genetics to Undergraduate Students: Presentation of a Thinking Process.**
L. van der Waaij, D. Lont and H. A. Mulder, Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands*

11:45 AM 230 **Capitalisation of Experiences in Implementing Genetic Improvement Programs in India – Role of Training and Education.**
A. Sudhakar[*1], M. Kunju[1], G. Suresh[2] and G. Kishore[1], [1]National Dairy Development Board, Anand, India, [2]Vellore-Tiruvannamalai District Co-operative Milk Producers' Union, Vellore, India*

12:00 PM 231 **Breeding Program as a Tool for Education and Training of Young.**
R. N. B. Lobo, Embrapa Goats and Sheep, Sobral, Brazil*

Statistical and Genomic Tools for Mapping QTL and Genes (Dairy and Beef)

Chair: Michael E. Goddard, Department of Environment and Primary Industries

Bayshore Grand Ballroom E-F

10:30 AM 193 **A Bayesian Analysis to Exploit Imputed Sequence Variants for QTL Discovery.**
I. M. MacLeod, University of Melbourne, Melbourne, Australia*

10:45 AM 194 **Genetic Architecture of Milk, Fat, Protein, Mastitis and Fertility Studied using NGS Data in Holstein Cattle.**
G. Sahana[*], L. Janss, B. Guldbrandtsen and M. S. Lund, Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark

11:00 AM 195 **Mapping QTL in Australian Dairy Cattle using Genomic Selection Methodologies.**
K. E. Kemper[*], University of Melbourne, Melbourne, Australia

11:15 AM 196 **Application of a Three-Haplotype LDLA Model to the French Holstein Population.**
D. Jonas[*], INRA, UMR1313 GABI, Jouy-en-Josas, France

11:30 AM 197 **Extremely Non-Uniform: Patterns of Runs of Homozygosity in Bovine Populations.**
*J. Sölkner[*1], M. Ferenčaković[2], Z. Karimi[1], A. M. Pérez O`Brien[1], G. Mészáros[1], S. Eaglen[1], S. A. Boison[1] and I. Curik[2], [1]University of Natural Resources and Life Sciences, Vienna, Austria, [2]University of Zagreb, Zagreb, Croatia*

11:45 AM 198 **Haplotype Tests for Diagnosis of QTL and Genes.**
*J. M. Henshall[*1], E. K. Piper[2] and B. Tier[3], [1]Food Futures Flagship, CSIRO Animal, Food and Health Sciences, Armidale, Australia, [2]The University of Queensland, School of Veterinary Science, Gatton, Australia, [3]Animal Genetics and Breeding Unit, Armidale, Australia*

Symposium: Genetics of Trait Complexes - Reproduction
Chair: Jennie E. Pryce, Department of Environment and Primary Industries
Bayshore Grand Ballroom B-C

10:30 AM 154 **World Trends in Dairy Cow Fertility.**
*J. E. Pryce[*1], R. Woolaston[2], D. P. Berry[3], E. Wall[4], M. Winters[5], R. Butler[6] and M. Shaffer[7], [1]Biosciences Research Division, Department of Environment and Primary Industries, Victoria, Australia, [2]Arlie Solutions, Pullanvale, Queensland, Australia, [3]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [4]SRUC, Edinburgh, United Kingdom, [5]DairyCo, Kenilworth, Warwickshire, United Kingdom, [6]Holstein Australia, Melbourne, Victoria, Australia, [7]Dairy Australia, Melbourne, Victoria, Australia*

11:00 AM 155 **Improving Dairy Cow Fertility using Milk-Based Indicator Traits.**
*C. Bastin[*1], J. Vandenplas[1,2] and N. Gengler[1], [1]University of Liege, Gembloux Agro-Bio Tech, Gembloux, Belgium, [2]National Fund for Scientific Research, Brussels, Belgium*

11:30 AM 156 **Using Genomics to Improve Reproduction Traits in Sheep.**
*H. D. Daetwyler[*1,2,3], S. Bolormaa[1,3], K. E. Kemper[4], D. Brown[5], A. A. Swan[3,5], J. H. van der Werf[3,6] and B. J. Hayes[1,2,3], [1]Department of Environment and Primary Industries, Bundoora, Australia, [2]La Trobe University, Bundoora, Australia, [3]CRC for Sheep Industry Innovation, Armidale, Australia, [4]University of Melbourne, Melbourne, Australia, [5]Animal Genetics and Breeding Unit, Armidale, Australia, [6]University of New England, Armidale, Australia*

Symposium: Improving Difficult Traits in Beef Cattle
Chair: Roberto Carvalheiro, Sao Paulo State University (UNESP)
Stanley Park Ballroom

10:30 AM 249 **Genomic Prediction of Beef Tenderness in Canadian Beef Cattle.**
*S. P. Miller[*1,2,3], D. Lu[3], G. VanderVoort[4] and I. B. Mandell[4], [1]AgResearch, Invermay, Mosgiel, New Zealand, [2]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [3]University of Alberta, Edmonton, AB, Canada, [4]University of Guelph, Guelph, ON, Canada*

11:00 AM 250 **Genetic Markers in Transcription Factors of Differentially Expressed Genes Associated with Post-partum Anoestrus Predict Pregnancy Outcome in an Independent Population of Beef Cattle.**
*M. R. Fortes[*1], L. R. Porto-Neto[2], K. L. DeAtley[3], A. Reverter-Gomez[2], M. G. Thomas[4], S. S. Moore[1], S. A. Lehnert[2] and W. M. Snelling[5], [1]The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, St Lucia, Australia, [2]CSIRO Food Futures Flagship, Brisbane, Australia, [3]California State University, Chico, Chico, CA, [4]Colorado State University, Department of Animal Sciences, Fort Collins, [5]USDA, ARS, US MARC, Clay Center, NE*

11:30 AM 251 **Reducing the Incidence of Early Embryonic Mortality in Beef Cattle.**
*R. D. Schnabel[*1], J. F. Taylor[1], D. S. Brown[1], M. F. Smith[1], M. Rolf[2], M. D. MacNeil[3], B. P. Kinghorn[4] and D. J. Patterson[1], [1]University of Missouri, Columbia, [2]Oklahoma State University, Stillwater, OK, [3]Kansas State University, Manhattan, [4]University of New England, Armidale, Australia*

Symposium: Poultry Genomic Architecture and Genomic Selection
Chair: William M. Muir, Purdue University
Bayshore Grand Ballroom D

10:30 AM 323 **Allele-Specific Expression, a New Genomics Tool for Development of Value-Added SNP Chips and to Fine Map QTL.**
*W. M. Muir[*1], S. Perumbakkam[2], A. Black-Pyrkosz[3], J. R. Dunn[3] and H. H. Cheng[3], [1]Purdue University, West Lafayette, IN, [2]Michigan State University, East Lansing, [3]USDA, ARS, ADOL, East Lansing, MI*

11:00 AM 324 **Single Step Methods with a View towards Poultry Breeding.**
*A. Legarra[*1], I. Misztal[2] and I. Aguilar[3], [1]INRA, UMR 1388 GenPhySE, Castanet-Tolosan, France, [2]University of Georgia, Athens, [3]INIA, Las Brujas, Uruguay*

11:30 AM 325 **GWAS using ssGBLUP.**
I. Misztal[*], University of Georgia, Athens

Whole Genome Scans for Disease Resistance
Chair: John W. Keele, USDA, ARS, U.S. Meat Animal Research Center
Bayshore Grand Ballroom A

10:30 AM 100 **Regional Heritability Mapping of Production Traits in Epidemic Porcine Reproductive and Respiratory Syndrome.**
*C. M. Orrett[*1], N. Deeb[2], R. Pong-Wong[1], O. Matika[1], C. R. G. Lewis[3], D. G. McLaren[4], A. L. Archibald[1] and S. C. Bishop[1], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]Genus, plc, Hendersonville, TN, [3]PIC Europe, Nantwich, United Kingdom, [4]Genus PLC, De Forest, WI*

10:45 AM 101 **A Genome-Wide Association Study for the Incidence of Persistent Bovine Viral Diarrhea Virus Infection in Cattle.**
*E. Casas[*1], B. E. Hessman[2], J. W. Keele[3] and J. F. Ridpath[4], [1]USDA, ARS, National Animal Disease Center, Ames, IA, [2]Haskell County Animal Hospital, Haskell, KS, [3]USDA-ARS, Clay Center, NE, [4]National Animal Disease Center, USDA-ARS, Ames, IA*

11:00 AM 102 **A Meta-Analysis for Bovine Tuberculosis Resistance in Dairy Cattle.**
*S. Tsairidou[*1], J. Woolliams[1], A. Allen[2], R. Skuce[2,3], S. H. McBride[2], R. Pong-Wong[1], O. Matika[1], E. Finlay[4], D. P. Berry[5], D. Bradley[4], S. McDowell[2], E. Glass[1] and S. C. Bishop[1], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]Agri-Food and Biosciences Institute, Belfast, United Kingdom, [3]School of Biological Sciences, Queen's University of Belfast, Belfast, United Kingdom, [4]Department of Genetics, Trinity College Dublin, Dublin, Ireland, [5]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland*

11:15 AM 103 **Whole-Genome Scan And Validation Of Regions Previously Associated With Prrs Antibody Response And Growth Rate using Gilts Under Health Challenge In Commercial Settings.**
*N. V. L. Serão[*1], R. A. Kemp[2], B. E. Mote[3], J. C. S. Harding[4], P. Willson[4], S. C. Bishop[5], G. S. Plastow[6] and J. C. M. Dekkers[1], [1]Iowa State University, Ames, [2]Genesus Inc, Lethbridge, AB, Canada, [3]Fast Genetics Inc., Saskatoon, SK, Canada, [4]University of Saskatchewan, Saskatoon, SK, Canada, [5]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [6]University of Alberta, Edmonton, AB, Canada*

11:30 AM 104 **A Comprehensive Genetic Study of Resistance to Nematodes in Sheep using the Ovine SNP Chip.**
*V. Riggio[*1], O. Matika[1], R. Pong-Wong[1], C. R. Moreno[2], A. Carta[3] and S. C. Bishop[1], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]INRA, UMR1388 GenPhySE, Castanet-Tolosan, France, [3]Research Unit: Genetics and Biotechnology, AGRIS Sardinia, Sassari, Italy*

11:45 AM 105 **Mapping QTL Controlling Milk Somatic Cell Counts in Sheep and Goat Support the Polygenic Architecture the Mastitis Resistance.**
*R. Rachel[*1], I. Palhière[1], C. R. Moreno[2], G. Foucras[3], C. Maroteau[2], A. Tircazes[2], G. Salle[2,4], G. Baloche[1] and G. Tosser-Klopp[2], [1]INRA, UMR 1388 GenPhySE, Castanet-Tolosan, France, [2]INRA, UMR1388 GenPhySE, Castanet-Tolosan, France, [3]ENVT-INRA, Castanet-tolosan, France, [4]Université François Rabelais de Tours, Tours, France*

Breeding in Aquaculture Species: Non-Salmonids
Chair: Roberto Neira, University of Chile, Aquainnovo
Cypress Room

1:30 PM 270 **A Genome-Wide Association Study for Resistance to Viral Nervous Necrosis in Atlantic Cod using a 12K Single Nucleotide Polymorphism Array.**
*R. Bangera[*1], M. Baranski[1] and S. Lien[2], [1]Norwegian Institute of Food, Fisheries and Aquaculture Research, Tromsø, Norway, [2]Centre for Integrative Genetics, Norwegian University of Life Sciences, Ås, Norway*

1:45 PM 271 **Genetic Variability of Selected Populations of Yellow Perch over Six Generations of Commercial-Scale Marker-Aided Cohort Selection for Growth.**
H. Wang[*], Ohio State University, Columbus, OH

2:00 PM 272 **Estimation of Body Weight of European Sea Bass (Dicentrarchus labrax) and Nile Tilapia (Oreochromis niloticus) Larvae by Image Analysis.**
*H. de Verdal[*1,2], M. Vandeputte[3,4], E. Pepey[2], M. O. Vidal[4], C. Ouedraogo[2], M. Canonne[2], H. D'Cotta[2], J. F. Baroiller[2], E. Baras[5] and B. Chatain[4], [1]WorldFish, Penang, Malaysia, [2]CIRAD, Montpellier, France, [3]INRA, Jouy en Josas, France, [4]IFREMER, Palavas les Flots, France, [5]IRD, Montpellier, France*

2:15 PM 273 **Genetic Parameters for Within-family Variance of Harvest Weight in Nile Tilapia (Oreochromis niloticus).**
*J. Marjanovic[*1,2], H. A. Mulder[1], H. L. Khaw[1,3] and P. Bijma[1], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden, [3]The WorldFish Center, Penang, Malaysia*

2:30 PM 274 **Evolution of Genetic Variability for Growth-Out Survival Rate in a Selected Population of Pacific White Shrimp *Penaeus (Litopenaeus) vannamei*.**
*N. Cala[1], H. H. Montaldo[*1], G. R. Campos-Montes[2,3] and H. Castillo-Juárez[2], [1]Universidad Nacional Autónoma de México, DF, Mexico, [2]Universidad Autónoma Metropolitana, DF, Mexico, [3]Maricultura del Pacífico, Mazatlán, Mexico*

2:45 PM 275 **RAD Sequencing Reveals Genome-Wide Heterozygote Deficiency in Pair Crosses of the Chilean Mussel Mytilus spp.**
*C. Penaloza[*1], S. C. Bishop[1], J. Toro[2] and R. D. Houston[1], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]Austral University, Valdivia, Chile*

Genomic Prediction across Populations
Chair: Esa A. Mäntysaari, MTT Agrifood Research Finland
Bayshore Grand Ballroom A

1:30 PM 073 **Holstein-Friesian Relationships and the Impact on the Accuracy of an Across-Breed Evaluation.**
*A. Brown[*1], G. Banos[1], M. P. Coffey[2], J. A. Woolliams[3] and R. Mrode[1], [1]Scotland's Rural College, Edinburgh, United Kingdom, [2]SRUC, Edinburgh, United Kingdom, [3]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom*

1:45 PM 074 **Effect of Genetic Architecture on Accuracy of Multi Breed Genomic Prediction.**
*Y. C. J. Wientjes[*1,2], M. P. L. Calus[1], M. E. Goddard[3,4] and B. J. Hayes[3,5,6], [1]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands, [2]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [3]The Department of Environment and Primary Industries, Bundoora, Australia, [4]University of Melbourne, Parkville, Australia, [5]Dairy Futures Cooperative Research Centre, Bundoora, Australia, [6]La Trobe University, Bundoora, Australia*

2:00 PM 075 **Across-Breeds Ancestral Relationships and Metafounders for Genomic Evaluation.**
*A. Legarra[1], O. F. Christensen[2], Z. G. Vitezica[*3], I. Aguilar[4] and I. Misztal[5], [1]INRA, Toulouse, France, [2]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [3]Unite Mixte ENSAT- INRA, Toulouse, France, [4]INIA, Las Brujas, Uruguay, [5]University of Georgia, Athens*

2:15 PM 076 **Accuracy of Genomic Breeding Values Predicted Within and Across Breeds in Pig Populations.**
*A. M. Hidalgo[*1,2], J. W. M. Bastiaansen[1], M. S. Lopes[1,3], B. Harlizius[3], M. A. Groenen[1] and D. J. D. Koning[2], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden, [3]TOPIGS Research Center IPG, Beuningen, Netherlands*

2:30 PM 077 **Genomic Selection in Admixed Populations.**
R. Rekaya[*], The University of Georgia, Athens

2:45 PM 078 **Influence of Foreign Genotypes on Genomic Breeding Values of National Candidates in Brown Swiss.**
*L. Plieschke[1] and C. Edel[*2], [1]Bavarian State Research Center for Agriculture, Institute of Animal Breeding, Poing, Germany, [2]Bavarian State Research Center for Agriculture, Institute of Animal Breeding, Grub, Germany*

Selection Theory - Non-Additive Effects
Chair: Jack C. M. Dekkers, Iowa State University
Bayshore Grand Ballroom D

1:30 PM 012 **Opportunities for Improvement of Phenotypic Variability: Influence of Direct vs Epistatic Effects.**
*X. Shen[*1] and W. G. Hill[2], [1]Division of Computational Genetics, Department of Clinical Sciences, Swedish University of Agricultural Sciences, Uppsala, Sweden, [2]Institute of Evolutionary Biology, School of Biological Sciences, University of Edinburgh, Edinburgh, United Kingdom*

1:45 PM 013 **Estimation of Genetic Variance Components Including Mutation and Epistasis using Bayesian Approach in a Selection Experiment on Body Weight in Mice.**
N. Widyas[*], J. Jensen and V. H. Nielsen, Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark

2:00 PM 014 **Genetic Variance in Environmental Variance Leads to Non-Linear Relationships between Traits with Application to Birth Weight and Survival in Piglets.**
*H. A. Mulder[*1], W. G. Hill[2] and E. F. Knol[3], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]Institute of Evolutionary Biology, School of Biological Sciences, University of Edinburgh, Edinburgh, United Kingdom, [3]TOPIGS Research Center IPG, Beuningen, Netherlands*

2:15 PM 015 **Design of Reference Populations for Genomic Selection in Crossbreeding Programs.**
*I. van Grevenhof[*1] and J. van der Werf[2], [1]Wageningen University, Wageningen, Netherlands, [2]School of Environmental & Rural Science, University of New England, Armidale, Australia*

2:30 PM 016 **The Standard Error of the Estimated Purebred-Crossbred Genetic Correlation.**
*P. Bijma[*1] and J. W. M. Bastiaansen[2], [1]Wageningen University, Wageningen, Netherlands, [2]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands*

2:45 PM 017 **Use of Genome Editing in Animal Breeding Programs.**
*J. Jenko[*1], G. Gorjanc[1], G. Mészáros[1], B. C. A. Whitelaw[1], J. A. Woolliams[1], M. A. Cleveland[2] and J. M. Hickey[1], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]Genus, Plc, Hendersonville, TN*

Symposium: Adaptation and Selection in Harsh Environments
Chair: Paul Boettcher, FAO
Bayshore Grand Ballroom B-C

1:30 PM 044 **Relationships between Adaptive and Productive Traits in Cattle, Goats and Sheep in Tropical Environments.**
*H. M. Burrow[*1] and J. M. Henshall[2], [1]University of New England, Armidale, N.S.W., Australia, [2]Food Futures Flagship, CSIRO Animal, Food and Health Sciences, Armidale, Australia*

2:00 PM 045 **Insights into the Interaction of Goat Breeds and their Environment.**
A. Stella[*], Fondazione Parco Tecnologico Padano, Lodi, Italy

2:30 PM 046 **Genomics of Heat Stress in Chickens.**
S. J. Lamont[*], Iowa State University, Ames

Symposium: Methods and Tools - Genome Sequencing
Chair: Ben J. Hayes, Department of Environment and Primary Industries

Bayshore Grand Ballroom E-F

1:30 PM 181 **Genomic Prediction and Genome Wide Association in Humans with Whole Genome Sequence Data.**
A. Price[*], Harvard School of Public Health, Boston, MA

2:00 PM 182 **Rapid Discovery of Mutations Responsible for Sporadic Dominant Genetic Defects in Livestock using Genome Sequence Data: Enhancing the Value of Farm Animals as Model Species.**
*A. Capitan[*1,2], P. Michot[1,2], F. Guillaume[1], C. Grohs[1], A. Djari[3], S. Fritz[1,2], S. Barbey[4], P. Otz[5], E. Bourneuf[1,6], D. Rocha[1], D. Esquerré[7,8,9], Y. Gallard[4], C. Klopp[3] and D. Boichard[1], [1]INRA, UMR1313 GABI, Jouy-en-Josas, France, [2]UNCEIA, Paris, France, [3]INRA, UR875 Biométrie et Intelligence Artificielle, Castanet-Tolosan, France, [4]INRA, UE0326, Domaine expérimental du Pin-au-Haras, Exmes, France, [5]VetAgro Sup, Unité Clinique Rurale, L'Arbresle, France, [6]DSV/iRCM/SREIT/LREG, CEA, Jouy-en-Josas, France, [7]Université de Toulouse INPT ENVT, UMR1388 Génétique, Physiologie et Systèmes d'Elevage, Castanet-Tolosan, France, [8]INRA, UMR1388 Génétique, Physiologie et Systèmes d'Elevage, GeT-PlaGe Genomic Facility, Castanet-Tolosan, France, [9]Université de Toulouse INPT ENSAT, UMR1388 Génétique, Physiologie et Systèmes d'Elevage, Castanet-Tolosan, France*

2:30 PM 183 **Genomic Prediction from Whole Genome Sequence in Livestock: The 1000 Bull Genomes Project.**
*B. J. Hayes[*1,2,3], I. M. MacLeod[4], H. D. Daetwyler[5], B. J. Phil[1], A. J. Chamberlain[6], C. Vander Jagt[6], A. Capitan[7], H. Pausch[8], P. Stothard[9], X. Liao[9], C. Schrooten[10], E. Mullaart[11], R. Fries[8], B. Guldbrandtsen[12], M. S. Lund[12], D. Boichard[13], R. F. Veerkamp[14], C. P. VanTassell[15], B. Gredler[16], T. Druet[17], A. Bagnato[18], J. Vilkki[19], D. J. de Koning[20], E. Santus[21] and M. E. Goddard[22], [1]Department of Environment and Primary Industries, Bundoora, Australia, [2]Dairy Futures Cooperative Research Centre, Bundoora, Australia, [3]La Trobe University, Bundoora, Australia, [4]University of Melbourne, Melbourne, Australia, [5]CRC for Sheep Industry Innovation, Armidale, Australia, [6]The Department of Environment and Primary Industries, Bundoora, Australia, [7]UNCEIA, Paris, France, [8]Chair of Animal Breeding, Technische Universitaet Muenchen, Freising, Germany, [9]University of Alberta, Edmonton, AB, Canada, [10]CRV, Arnhem, Netherlands, [11]CRV BV, Arnhem, Netherlands, [12]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [13]INRA, UMR1313 GABI, Jouy-en-Josas, France, [14]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [15]Bovine Functional Genomics Laboratory ARS-USDA, Beltsville, MD, [16]Qualitas AG, Zug, Switzerland, [17]University of Liège, Liège, Belgium, [18]Università degli Studi di Milano, Milano, Italy, [19]MTT Agrifood Research Finland, Biotechnology and Food Research, Jokioinen, Finland, [20]Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden, [21]ANARB, Italian Brown Cattle Breeders' Association, Bussolengo (VR), Italy, [22]Department of Primary Industries, Melbourne, Australia*

Symposium: Utilizing Whole Genome Sequence Information in Swine Breeding
Chair: Graham S. Plastow, University of Alberta

Stanley Park Ballroom

1:30 PM 375 **Novel Tools Provide New Opportunities for Genetic Improvement of Swine.**
*M. F. Rothschild[*1], E. S. Kim[1] and G. S. Plastow[2], [1]Iowa State University, Ames, [2]University of Alberta, Edmonton, AB, Canada*

2:00 PM 376 **Utilizing Whole Genome Sequence Information in Swine Breeding: Where Next for Application?.**
R. A. Kemp[*], Genesus Inc, Lethbridge, AB, Canada

2:30 PM 377 **Sequencing Millions of Animals for Genomic Selection 2.0.**
*J. M. Hickey[*1], G. Gorjanc[1], M. A. Cleveland[2], A. Kranis[3], J. Jenko[1], G. Mészáros[1], J. A. Woolliams[1] and M. Perez-Enciso[4], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]Genus, Plc, Hendersonville, TN, [3]Aviagen Ltd, Edinburgh, United Kingdom, [4]Universitat Autònoma de Barcelona, Bellaterra, Spain*

Genetics of Trait Complexes - Feed Intake and Efficiency (Swine & Poultry)
Chair: Paul F. Arthur, NSW Department of Primary Industries
Bayshore Grand Ballroom D

4:00 PM 120 **The Genetic and Phenotypic Relationship Between Feed Efficiency and Pendulous Crop in the Turkey (Meleagris gallopavo).**
*O. W. Willems[*1], N. J. H. Buddiger[2], B. J. Wood[1,2] and S. P. Miller[1], [1]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [2]Hybrid Turkeys, Kitchener, ON, Canada*

4:15 PM 121 **Association of SNPs with Components of Residual Feed Intake Parameters in a Meat-Type Chicken Population.**
*S. E. Aggrey[*1], F. Gonzalez-Ceron[2] and R. Rekaya[3], [1]NutriGenomics Laboratory, Department of Poultry Science, University of Georgia, Athens, [2]NutriGenomics Laboratory, Department of Poultry Science, University of Georgia, Athens, [3]Department of Animal and Dairy Science, University of Georgia, Athens*

4:30 PM 122 **QTL Detection for Excretion Traits in Broilers.**
*S. Mignon-Grasteau[*1], B. Carré[1], I. Gabriel[1], N. Rideau[1], C. Chantry-Darmon[2], M. Y. Boscher[2], D. Bastianelli[3], N. Sellier[1], M. Chabault-Dhuit[4], E. Le Bihan-Duval[4] and A. Narcy[1], [1]INRA, Nouzilly, France, [2]Labogena, Jouy-en-Josas, France, [3]CIRAD, Montpellier, France, [4]INRA UR83, Nouzilly, France*

4:45 PM 123 **Does Selection for RFI Affect the Sensitivity to Environmental Variation in Pigs?.**
*H. Gilbert[*1,2], I. David[1], Y. Billon[3] and S. Hermesch[2], [1]INRA UMR1388, F-31326 Castanet-Tolosan, France, [2]AGBU - University of New England, Armidale, NSW, Australia, [3]INRA UE1372, F-17700 Surgères, France*

5:00 PM 124 **Genomic Prediction and Genomic Variance Partitioning of Daily and Residual Feed Intake in Pigs using Bayesian Power Lasso Models .**
*D. N. Do[*1], L. Janss[2], A. B. Strathe[3], J. Jensen[2] and H. N. Kadarmideen[1], [1]Department of Clinical Veterinary and Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark, [2]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [3]Danish Agriculture & Food Council, Pig Research Centre, Copenhagen, Denmark*

5:15 PM 125 **Longitudinal Analysis of Residual Feed Intake in Mink using Random Regression with Heterogeneous Residual Variance.**
*M. Shirali[*1], V. H. Nielsen[1], S. H. Moller[2] and J. Jensen[1], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Department of Animal Science Epidemiology and management, Aarhus University, Tjele, Denmark*

Poultry Breeding (2)
Chair: William M. Muir, Purdue University
Cypress Room

4:00 PM 326 **Prediction Accuracy of Pedigree and Genomic Estimated Breeding Values over Generations in Layer Chickens.**
*Z. Q. Weng[*1], A. Wolc[1], R. L. Fernando[1], J. C. M. Dekkers[1], J. Arango[2], J. E. Fulton[2], P. Settar[2], N. P. O'Sullivan[2] and D. J. Garrick[1], [1]Iowa State University, Ames, [2]Hy-Line International, Dallas Center, IA*

4:15 PM 327 **Association between Metabolites in Egg Yolk and Hatchability Traits in Laying Hens.**
*A. R. Sharifi[*1], Y. Zhang[1], S. Weigend[2], A. Weigend[2], R. Preisinger[3], M. Schmutz[3], L. Roemisch-Margl[4], R. Jonczyk[4], M. C. Gülersönmez[4], H. P. Piepho[5], W. A. Malik[5], F. Sitzenstock[6] and H. Simianer[1], [1]Georg-August-University, Göttingen, Germany, [2]Institute of Farm Animal Genetics of the Friedrich-Loeffler-Institute, Neustadt-Mariensee, Germany, [3]Lohmann Tierzucht GmbH, Cuxhaven, Germany, [4]Technical University Munich, Munich, Germany, [5]Hohenheim University, Hohenheim, Germany, [6]University of Applied Sciences, Osnabrück, Germany*

4:30 PM 328 **New Insights on the Influence of Leptin Receptor Gene in Bone Traits in Broilers.**
*A. M. G. Ibelli[*1], J. O. Peixoto[1], J. A. P. Marchesi[2], L. L. Coutinho[3] and M. C. Ledur[1], [1]EMBRAPA Swine and Poultry, Concórdia, Brazil, [2]Universidade do Contestado, Concórdia, Brazil, [3]Universidade de São Paulo/Esalq, Piracicaba, Brazil*

4:45 PM 329 **Detection of QTL Influencing Egg Quality Traits in Layers Receiving Various Diets.**
*H. Romé[*1,2], A. Varenne[3], F. Hérault[1,2], H. Chapuis[4], C. Alleno[5], P. Dehais[6], A. Vignal[6], T. Burlot[3] and P. Le Roy[1,2], [1]INRA UMR1348 PEGASE, Saint-Gilles, France, [2]Agrocampus Ouest UMR1348 PEGASE, Rennes, France, [3]Novogen, Le Foeil, France, [4]SYSAAF, Nouzilly, France, [5]Zootests, Ploufragan, France, [6]INRA UMR1388 GenPhySe, Castanet-Tolosan, France*

5:00 PM 330 **Detecting Signatures of Selection in Lines of Broiler Chickens.**
*J. J. Stainton[*1], C. Haley[1,2], B. Charlesworth[3], A. Kranis[1,4], K. Watson[4] and P. Wiener[1], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]MRC Human Genetics Unit, MRC IGMM, University of Edinburgh, Edinburgh, United Kingdom, [3]Institute of Evolutionary Biology, University of Edinburgh, Edinburgh, United Kingdom, [4]Aviagen Ltd, Edinburgh, United Kingdom*

5:15 PM 331 **Detection Of Pleiotropic QTL Related To Protein Expression And Foie Gras Quality Traits.**
*Y. François[*1,2], C. Molette[2], A. Vignal[3], S. Davail[1] and C. Marie-Etancelin[2], [1]IUT des Pays de l'Adour, UMR CNRS 5254 IPREM-EEM, Mont De Marsan, France, [2]INRA UMR 1388 GenPhySe, Castanet-Tolosan, France, [3]INRA UMR1388 GenPhySe, Castanet-Tolosan, France*

Swine Genomics and Difficult Traits
Chair: Max F. Rothschild, Iowa State University
Bayshore Grand Ballroom B-C

4:00 PM 369 **Genome-Wide Association Analyses for Boar Taint Components in Different Pietrain Sired Crosses.**
C. Grosse-Brinkhaus[*], L. C. Storck, C. Neuhoff, L. Frieden, K. Schellander, C. Looft and E. Tholen, Institute of animal science, University of Bonn, Bonn, Germany

4:15 PM 370 **Genome-Wide Association Study For Growth And Feed Intake in Duroc boars Utilizing Random Regression Models.**
*J. T. Howard[*1], F. Tiezzi[1], S. Jiao[1], K. A. Gray[2] and C. Maltecca[1], [1]North Carolina State University, Raleigh, [2]Smithfield Premium Genetics, Rose Hill, NC*

4:30 PM 371 **From Phenotype to QTN and Back: Identification and Characterization of a Genetic Variant of the Porcine Glucocorticoid Receptor With a Major Effect on HPA Axis Activity.**
*E. Murani[*1], H. Reyer[1], A. Görres[1], A. Tuchscherer[2], E. Kanitz[3], S. Ponsuksili[1] and K. Wimmers[1], [1]Genome Biology, Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, [2]Genetics and Biometry, Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, [3]Behavioural Physiology, Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany*

4:45 PM 372 **Genetic Associations of Farrowing Length in Two Maternal Lines of Pigs.**
*R. Zanella[1], A. M. G. Ibelli[1], J. O. Peixoto[1], M. E. Cantão[1], M. V. G. B. da Silva[2], P. F. Giachetto[3], M. Freitas[4], J. Lopes[4] and M. C. Ledur[*1], [1]EMBRAPA Swine and Poultry, Concórdia, Brazil, [2]Embrapa Dairy Cattle, Juiz de Fora, Brazil, [3]Embrapa Agricultural Informatics, Campinas, Brazil, [4]BRF S/A, Curitiba, Brazil*

5:00 PM 373 **Genome-Wide Association Study for Conformation Traits and Osteochondrosis in Pigs.**
E. Grindflek[*], H. Hamland and T. Aasmundstad, Norsvin, Hamar, Norway

5:15 PM 374 **Studies of the Genetic Background of a Teat Defect in Pigs Born in Germany and Sweden.**
*E. Jonas[*1], H. Chalkias[1], C. Neuhoff[2], G. Lindgren[1] and D. J. D. Koning[1], [1]Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden, [2]Institute of Animal Sciences, University of Bonn, Bonn, Germany*

Symposium: Challenges in Industry Application of Genomic Prediction
Chair: Dorian J. Garrick, Iowa State University

Stanley Park Ballroom

4:00 PM 079 **Challenges in Industry Application of Genomic Prediction - Experiences from Dairy Cattle.**
E. A. Mäntysaari[*], MTT Agrifood Research Finland, Biotechnology and Food Research, Jokioinen, Finland

4:30 PM 080 **Applications of Genomic Selection in Poultry.**
*A. Wolc[*1,2], A. Kranis[3], J. Arango[2], P. Settar[2], J. E. Fulton[2], N. P. O'Sullivan[2], S. Avendaño[4], K. Watson[3], R. Preisinger[5], D. Habier[1], S. J. Lamont[1], R. L. Fernando[1], D. J. Garrick[1] and J. C. M. Dekkers[1], [1]Iowa State University, Ames, [2]Hy-Line International, Dallas Center, IA, [3]Aviagen Ltd, Edinburgh, United Kingdom, [4]Aviagen Limited, Newbridge, United Kingdom, [5]Lohmann Tierzucht GmbH, Cuxhaven, Germany*

5:00 PM 081 **Genomic Predictions in Aquaculture: Reliabilities in an Admixed Atlantic Salmon Population.**
*J. Ødegård[*1], T. Moen[1], N. Santi[1], S. A. Korsvoll[1], S. Kjøglum[1] and T. H. E. Meuwissen[2], [1]AquaGen AS, Trondheim, Norway, [2]Norwegian University of Life Sciences, Ås, Norway*

Symposium: Integrating the Discovery and Usage of Functional Mutations into Dairy Genomic Selection Programs for Complex Traits
Chair: Hermann Swalve, Martin Luther University Halle-Wittenberg

Bayshore Grand Ballroom E-F

4:00 PM 302 **Use of High Density Marker Data – The Role of Individual Functional Mutations.**
H. Swalve[*], Martin Luther University Halle-Wittenberg, Wittenberg, Germany

4:30 PM 303 **Genomic Feature Models.**
*P. Sørensen[*1], S. M. Edwards[2] and P. Jensen[1], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Center of Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark*

5:00 PM 304 **The Hunt for a Functional Mutation Affecting Conformation and Calving Traits on Chromosome 18 in Holstein Cattle.**
*J. B. Cole[*1], J. L. Hutchison[2], D. J. Null[1], P. M. VanRaden[2], G. E. Liu[3], S. G. Schroeder[3], T. P. L. Smith[4], T. S. Sonstegard[5], C. P. VanTassell[6] and D. Bickhart[7], [1]Animal Improvement Programs Laboratory, Agricultural Research Service, United States Department of Agriculture, Beltsville, MD, [2]Animal Improvement Programs Laboratory, USDA-ARS, Beltsville, MD, [3]Bovine Functional Genomics Laboratory, ARS, USDA, Beltsville, MD, [4]USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, [5]USDA, ARS, BFGL, Beltsville, MD, [6]Bovine Functional Genomics Laboratory ARS-USDA, Beltsville, MD, [7]USDA-ARS-AIPL, Beltsville, MD*

Symposium: Methods and Tools - Bioinformatics (1)
Chair: Paul Stothard, University of Alberta

Bayshore Grand Ballroom A

4:00 PM 163 **Bioinformatics Tools and Lessons from the Canadian Cattle Genome Project.**
*P. Stothard[*1], X. Liao[1], A. S. Arantes[1], M. De Pauw[1], C. Coros[2], G. S. Plastow[1], S. S. Moore[1,3] and S. P. Miller[1,4], [1]University of Alberta, Edmonton, AB, Canada, [2]Delta Genomics Centre, Edmonton, AB, Canada, [3]The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, St Lucia, Australia, [4]AgResearch, Invermay, Mosgiel, New Zealand*

4:30 PM 164 **Using the Whole Read: Structural Variant Detection using NGS Data.**
*D. Bickhart[*1], J. B. Cole[2], J. L. Hutchison[3], L. Xu[4] and G. E. Liu[5], [1]USDA-ARS-AIPL, Beltsville, MD, [2]Animal Improvement Programs Laboratory, Agricultural Research Service, United States Department of Agriculture, Beltsville, MD, [3]Animal Improvement Programs Laboratory, USDA-ARS, Beltsville, MD, [4]University of Maryland, College Park, [5]Bovine Functional Genomics Laboratory, ARS, USDA, Beltsville, MD*

5:00 PM 165 **Ruminant Comparative Genomics: A Tool for Tracing Rumen Evolution.**
D. M. Larkin and M. Farre, Royal Veterinary College, London, United Kingdom*

Friday, August 22, 2014

Plenary Speaker - Friday
Chairs: E. John Pollak, USDA, ARS, U.S. Meat Animal Research Center and Filippo Miglior, Canadian Dairy Network and University of Guelph

Bayshore Grand Ballroom

8:30 AM Plenary 5 **Population Genetics in the Personal Genome Era.**
C. D. Bustamante[*], Department of Genetics, Stanford University, Stanford, CA

Breeding of Companion Animals
Chair: Sheila M. Schmutz, University of Saskatchewan

Cypress Room

10:30 AM 279 **Indications for Presence of a Major Gene for Thyroid Cancer in German Longhaired Pointers.**
*L. van der Waaij[*1], R. Crooijmans[1], R. Keesler[2], D. de Jong[1] and J. de Vos[3], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]Veterinary Faculty, Utrecht University, Utrecht, Netherlands, [3]Veterinary Oncology Referral Centre 'De Ottenhorst', Terneuzen, Netherlands*

10:45 AM 280 **Good Possibilities to Select Against Fearfulness in Rough Collie.**
P. Arvelius[*], H. Eken Asp, W. F. Fikse, E. Strandberg and K. Nilsson, Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden

11:00 AM 281 **Building Effective Systems to Manage Inbreeding in Pedigree Dog Breeds.**
*T. W. Lewis[*1], S. C. Blott[2], D. M. Howard[3] and J. A. Woolliams[3], [1]Animal Health Trust, Suffolk, United Kingdom, [2]University of Nottingham, Leicestershire, United Kingdom, [3]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom*

11:15 AM 282 **Is Heterozygotie at the "Gait Keeper" Gene an Advantage for the Trotteur Français?**
A. Ricard[*], INRA, UMR 1313, Jouy-en-Josas, France; IFCE, Recherche et Innovation, Exmes, France

11:30 AM 283 **The Role of Maternal Lineages in Horse Breeding: Effects on Conformation and Performance Traits.**
*N. Krattenmacher[*1], J. Tetens[1], S. Hedt[1], E. Stamer[2] and G. Thaller[3], [1]Institute of Animal Breeding and Husbandry, Kiel University, Kiel, Germany, [2]TiDa GmbH, Westensee/Brux, Germany, [3]Institute of Animal Breeding and Husbandry, University Kiel, Kiel, Germany*

11:45 AM 284 **Influence Of Specialisation On Connectedness And Genetic Parameters In Dutch Warmblood Riding Horses.**
*G. Rovere[*1,2], P. Madsen[1], E. Norberg[1], J. A. M. van Arendonk[2] and B. J. Ducro[2], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands*

Genomic Selection in Beef Cattle
Chair: Roberto Carvalheiro, Sao Paulo State University (UNESP)

Bayshore Grand Ballroom D

10:30 AM 252 **Genomic Breeding values from Across Breed Prediction in Practice: Accuracy of Beef-CRC Genomic Breeding Values in Australian Angus and Australian Brahman beef cattle.**
*V. Boerner[*1], D. Johnston[1] and B. Tier[2], [1]Animal Genetics and Breeding Unit, University of New England, Armidale, Australia, [2]Animal Genetics and Breeding Unit, Armidale, Australia*

10:45 AM 253 **Dynamic Genomic Selection in Crossbred Beef Cattle Populations.**
*R. V. Ventura[*1,2], S. G. Larmer[3], F. S. Schenkel[2], S. P. Miller[4] and P. G. Sullivan[5], [1]Beef Improvement Opportunities, Guelph, ON, Canada, [2]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [3]Center For Genetic Improvement of Livestock - University of Guelph, Guelph, ON, Canada, [4]Centre for Genetic*

Improvement of Livestock - University of Guelph, Guelph, ON, Canada, [5]Canadian Dairy Network, Guelph, ON, Canada

11:00 AM 254 **Preliminary Identification and Characterization of Copy Number Variations in the Genome of South African Nguni Cattle.**
*M. Wang[*1,2], J. Rees[1], K. Dzama[2] and F. C. Muchadeyi[1], [1]Agricultural Research Council-Biotechnology Platform, Pretoria, South Africa, [2]University of Stellenbosch, Stellenbosch, South Africa*

11:15 AM 255 **Genome-Wide Analysis of Genetic Diversity in Autochthonous Spanish Populations of Beef Cattle.**
*A. González-Rodríguez[*1], M. A. Toro[2], L. Varona[1], M. J. Carabaño[3], J. J. Cañas-Álvarez[4], J. Altarriba[1], T. B. R. Da Silva[5,6], J. A. Baró[7], A. Molina[8] and C. J. Díaz[3], [1]Universidad de Zaragoza, Zaragoza, Spain, [2]ETS Ingenieros Agrónomos, Madrid, Spain, [3]INIA, Madrid, Spain, [4]Universitat Autònoma de Barcelona, Bellaterra (Barcelona), Spain, [5]UNESP-Jaboticabal, Brazil, Jaboticabal, Brazil, [6]INIA, Spain, Madrid, Spain, [7]Universidad de Valladolid, Palencia, Spain, [8]Universidad de Córdoba, Córdoba, Spain*

11:30 AM 256 **Selection Signatures in Autochthonous Spanish Cattle Breeds using Site Frequency Spectrum Statistics.**
*S. Munilla[*1,2], A. González-Rodríguez[2], E. F. Mouresan[2], J. J. Cañas-Álvarez[3], J. Altarriba[2], C. J. Díaz[4], A. Molina[5], P. Martínez Camblor[6] and L. Varona[2], [1]Universidad de Buenos Aires, Buenos Aires, Argentina, [2]Universidad de Zaragoza, Zaragoza, Spain, [3]Universitat Autònoma de Barcelona, Bellaterra (Barcelona), Spain, [4]INIA, Madrid, Spain, [5]Universidad de Córdoba, Córdoba, Spain, [6]Universidad de Oviedo, Oviedo, Spain*

11:45 AM 257 **Fat Cows - Selection Signatures in Korean Hanwoo and Australian Wagyu Cattle.**
*E. M. Strucken[*1], E. K. Piper[2], H. K. Lee[3], K. D. Song[3], J. Gibson[1], S. W. Lee[4] and C. Gondro[5], [1]University of New England, Armidale, Australia, [2]The University of Queensland, School of Veterinary Science, Gatton, Australia, [3]Hankyong National University, Anseong, South Korea, [4]Hanwoo Experiment Station, NIAS, RDA, Pyeongchang, South Korea, [5]School of Environmental & Rural Science, University of New England, Armidale, Australia*

Industry Application of Genomic Prediction
Chair: Dorian J. Garrick, Iowa State University
Bayshore Grand Ballroom B-C

10:30 AM 082 **Genomic Relationships give Improved Prediction Ability for a Selection of Traits in Norsvin Landrace and Duroc.**
*Nordbø[*1,2], E. Gjerlaug-Enger[1], T. Aasmundstad[1] and E. Grindflek[1], [1]Norsvin, Hamar, Norway, [2]Geno SA, Hamar, Norway*

10:45 AM 083 **Effect of Cow Reference Group on Validation Accuracy of Genomic Evaluation.**
*M. Koivula[*1], I. Strandén[1], G. P. Aamand[2] and E. A. Mäntysaari[1], [1]MTT Agrifood Research Finland, Biotechnology and Food Research, Jokioinen, Finland, [2]NAV Nordic Cattle Genetic Evaluation, Aarhus, Denmark*

11:00 AM 084 **The Effect of Training Population Size and Chip Density on Accuracy and Bias of Genomic Predictions in Broiler Chickens.**
*J. J. Ilska[*1], A. Kranis[2] and J. A. Woolliams[3], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Edinburgh, United Kingdom, [2]Aviagen Ltd, Edinburgh, United Kingdom, [3]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom*

11:15 AM 085 **Selective Breeding Against Infectious Diseases In Atlantic Cod With Whole Genome Sequence Data.**
*X. Yu[*1], T. H. E. Meuwissen[1], M. Baranski[2] and A. K. Sonesson[3], [1]Norwegian University of Life Sciences, Ås, Norway, [2]Norwegian Institute of Food, Fisheries and Aquaculture Research, Tromsø, Norway, [3]NOFIMA, Ås, Norway*

11:30 AM 086 **Genomic Predictions of Economically Important Traits in Nelore Cattle of Brazil.**
*P. R. Boddhireddy[*1], K. C. Prayaga[2], P. S. Barros[3], R. B. Lôbo[4] and S. K. DeNise[1], [1]Zoetis Inc., Kalamazoo, MI, [2]Zoetis Inc., Parkville, Australia, [3]Zoetis Inc., Sao Paulo, Brazil, [4]Brazilian Society of Breeders and Researchers, Ribeirão Preto, Brazil*

11:45 AM 087 **Using Pseudo-Observations to Combine Genomic and Conventional Data in the Dutch National Evaluation.**
M. Stoop, H. Eding[*], M. van Pelt, L. de Haer and G. de Jong, CRV, Arnhem, Netherlands

Symposium: Advances in Selection Theory
Chair: Ricardo Pong-Wong, The Roslin Institute and University of Edinburgh

Stanley Park Ballroom

10:30 AM 018 **Predicting Gain the Sustainable Way and its Relevance to Genomic Selection.**
*J. A. Woolliams[*1], K. G. Nirea[2] and T. H. E. Meuwissen[3], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]Norwegian University of Life Sciences, Ås, Norway, [3]Department of Animal and Aquacultural Sciences, University of Life Sciences, Ås, Norway*

11:00 AM 019 **Contribution of Gene-Gene Interaction to Genetic Variation and its Utilisation by Selection.**
*A. Mäki-Tanila[*1] and W. G. Hill[2], [1]MTT Agrifood Research Finland, Jokioinen, Finland, [2]University of Edinburgh, Edinburgh, United Kingdom*

11:30 AM 020 **The Basis of Genetic Relationships in the Era of Genomic Selection.**
*T. H. E. Meuwissen[*1], A. K. Sonesson[2] and J. Ødegård[3], [1]Norwegian University of Life Sciences, Ås, Norway, [2]NOFIMA, Ås, Norway, [3]AquaGen AS, Trondheim, Norway*

Symposium: Developing Effective Dairy Genomic Selection Programs for Traits or Breeds that Lack Massive Reference Populations
Chair: Christian Maltecca, North Carolina State University

Bayshore Grand Ballroom E-F

10:30 AM 311 **A Multifaceted Approach to the Use of Genomic Selection in New Traits.**
C. Maltecca[*], North Carolina State University, Raleigh

11:00 AM 312 **Assembling a Reference Population – from Genetic Architecture to New Phenotypes.**
K. Schoepke[*], Martin-Luther-University Halle-Wittenberg, Halle, Germany

11:30 AM 313 **How to Improve Genomic Predictions in Small Populations.**
M. S. Lund[*], Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark

Symposium: Developments in Sheep Genetics
Chair: John C McEwan, AgResearch

Bayshore Grand Ballroom A

10:30 AM 351 **Genomic Selection in Sheep Breeding Programs.**
J. van der Werf[*], School of Environmental & Rural Science, University of New England, Armidale, Australia

11:00 AM 352 **Association of TMEM154 Missense Mutations with Lentiviral Infection and Virus Subtypes in Sheep.**
M. P. Heaton[*], K. A. Leymaster and M. L. Clawson, USDA, Meat Animal Research Center, Clay Center, NE

11:30 AM 353 **Association between Raw SNP Data and Growth and Meat Yield Traits in Sheep.**
*G. Jenkins[*1], J. C. McEwan[2], M. A. Black[3], M. E. Goddard[4,5], B. Auvray[2] and K. G. Dodds[6], [1]AbacusBio Limited, Dunedin, New Zealand, [2]AgResearch, Invermay, New Zealand, [3]University of Otago, Dunedin, New Zealand, [4]Department of Primary Industries, Melbourne, Australia, [5]University of Melbourne, Melbourne, Australia, [6]AgResearch, Mosgiel, New Zealand*

11:45 AM 354 **Inferring Ancestral Demography of Domestic and Wild Sheep using Whole-Genome Sequence.**
*S. Bolormaa[*1,2], J. Kijas[3], D. Coltman[4], H. D. Daetwyler[1,2,5] and I. M. MacLeod[6], [1]Department of Environment and Primary Industries, Bundoora, Australia, [2]CRC for Sheep Industry Innovation, Armidale, Australia, [3]CSIRO Animal, Food and Health Sciences, Brisbane, Australia, [4]University of Alberta, Edmonton, AB, Canada, [5]La Trobe University, Bundoora, Australia, [6]University of Melbourne, Melbourne, Australia*

Bioinformatics: Analysis and Discovery
Chair: James M. Reecy, Iowa State University
Cypress Room

1:30 PM 166 **Fine Scale Population Structure of Global Cattle Breeds using Dense Haplotype Data.**
*M. Neuditschko[*1], M. S. Khatkar[2] and H. W. Raadsma[2], [1]Agroscope - Swiss National Stud Farm, Avenches, Switzerland, [2]Reprogen Animal Bioscience Group, Faculty of Veterinary Science, University of Sydney, Camden, Australia*

1:45 PM 167 **Runs of Homozygosity and Distribution of Functional Variants in Cattle Genome.**
*Q. Zhang[*1,2], B. Guldbrandtsen[1], M. Bosse[2], M. S. Lund[1] and G. Sahana[1], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands*

2:00 PM 168 **Systems Genetics Analysis of Obesity in a Porcine Model using WISH Network Method.**
*L. J. Kogelman[1], S. D. Pant[1], J. Karjalainen[2], L. Franke[2], M. Fredholm[1] and H. N. Kadarmideen[*1], [1]Department of Clinical Veterinary and Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark, [2]Department of Genetics, University Medical Center Groningen, Groningen, Netherlands*

2:15 PM 169 **Separating Signal from Noise Estimating SNP-effects and Decomposing Genetic Variation to the Level of QTLs in Pure Breed Duroc Pigs.**
*P. M. Sarup[*1], J. Jensen[2], S. M. Edwards[1], T. Ostersen[3], P. Sørensen[2] and M. A. Henryon[3], [1]Center of Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [3]Pig Research Centre, Copenhagen, Denmark*

2:30 PM 170 **Regulatory and Coding Genome Regions are Enriched for Trait Associated Variants in Dairy Cattle.**
*L. Koufariotis[*1,2,3], Y. P. P. Chen[4], S. Bolormaa[5] and B. J. Hayes[6], [1]La Trobe University, Melbourne, Australia, [2]Department of Enviroment and Primary Industries, Melbourne, Australia, [3]Dairy Futures Co-operative Research Centre, Melbourne, Australia, [4]Faculty of Science, Technology and Engineering, La Trobe University, Melbourne, CA, Australia, [5]CRC for Sheep Industry Innovation, Armidale, Australia, [6]The Department of Environment and Primary Industries, Bundoora, Australia*

2:45 PM 171 **A Tale Of Two Birds: SNP Discovery and Genomic Architecture of Highly Inbred Leghorn and Fayoumi Chicken Breeds using Whole Genome Resequencing.**
*D. S. Fleming[*1], J. E. Koltes[2], E. Fritz-Waters[2], J. M. Reecy[2] and S. J. Lamont[2], [1]Iowa State University, Ames, [2]Iowa State University, Ames*

Improving Nutrient Utilization and Reducing the Environmental Impact of Dairy Operations through Genetic or Genomic Selection
Chair: Kent A. Weigel, University of Wisconsin
Bayshore Grand Ballroom E-F

1:30 PM 305 **Genetic Parameters for Methane Emissions of Dairy Cows Predicted Based on Milk Fatty Acids.**
*M. H. P. W. Visker[*1,2], S. van Engelen[1,2], J. Dijkstra[3], J. A. M. van Arendonk[2] and H. Bovenhuis[2], [1]TI Food and Nutrition, Wageningen, Netherlands, [2]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [3]Animal Nutrition Group, Wageningen University, Wageningen, Netherlands*

1:45 PM 306 **Genome Wide Association Studies for Milk Fatty Acids as a Basis for Methane Prediction.**
*S. van Engelen[*1], H. Bovenhuis[2], J. Dijkstra[3], J. A. M. van Arendonk[2] and M. H. P. W. Visker[1], [1]TI Food and Nutrition, Wageningen, Netherlands, [2]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [3]Animal Nutrition Group, Wageningen University, Wageningen, Netherlands*

2:00 PM 307 **Strategies for Use of Reproductive Technologies in Genomic Dairy Cattle Breeding Programs.**
*J. R. Thomasen[*1,2] and A. C. Sørensen[1], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]VikingGenetics, Assentoft, Denmark*

2:15 PM 308 **Inbreeding and Crossbreeding Parameters for Production and Fertility Traits in Holstein, Montbéliarde and Normande Cows.**
C. Dezetter[*], *Groupe ESA, Angers, France; ONIRIS, Nantes, France; Coopex Montbeliarde, Roulans, France*

2:30 PM 309 **Genomic Predictions of Fertility Related Disorders in Norwegian Red using 30 Years of Data.**
K. Haugaard[*1], *B. Heringstad*[1,2] *and M. Svendsen*[2], [1]*Norwegian University of Life Sciences, Ås, Norway,* [2]*Geno, Ås, Norway*

2:45 PM 310 **Milk Flow Traits of Friesian, Jersey and Friesian-Jersey Crossbred Cows Under Grazing Conditions in New Zealand.**
N. Lopez-Villalobos[*1], *J. P. Edwards*[2] *and J. G. Jago*[2], [1]*Massey University, Palmerston North, New Zealand,* [2]*DairyNZ, Hamilton, New Zealand*

Linear and Nonlinear Models: Inference
Chair: Daniel Gianola, University of Wisconsin
Bayshore Grand Ballroom D

1:30 PM 216 **Selective Shrinkage of Genomic Effects using Synthetic Dependencies in Neighboring Chromosome Regions.**
D. Wittenburg[*] *and N. Reinsch, Leibniz Institute for Farm Animal Biology, Dummerstorf, Germany*

1:45 PM 217 **Improving REML Estimates of Genetic Parameters through Penalties on Correlation Matrices.**
K. Meyer[*], *Animal Genetics and Breding Unit, University of New England, Armidale, Australia*

2:00 PM 218 **Inferring the Ancestral Dynamics of Population Size from Genome Wide Molecular Data: An ABC Approach.**
S. Boitard[*1,2] *and S. Sochacki*[2], [1]*GABI (INRA / AgroParisTech), Jouy-en Josas, France,* [2]*UMR 7205 ISYEB (MNHN / CNRS / EPHE / UPMC), Paris, France*

2:15 PM 219 **Causal Meaning of Genomic Predictors: Implication on Genome-Enabled Selection Modeling.**
B. D. Valente[*], *G. Morota, G. J. M. Rosa, D. Gianola and K. A. Weigel, University of Wisconsin, Madison*

2:30 PM 220 **Using SNP Markers to Estimate Additive, Dominance and Imprinting Genetic Variance.**
M. S. Lopes[*1,2], *J. W. M. Bastiaansen*[1], *L. Janss*[3], *H. Bovenhuis*[1] *and E. F. Knol*[2], [1]*Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands,* [2]*TOPIGS Research Center IPG, Beuningen, Netherlands,* [3]*Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark*

2:45 PM 221 **Estimation of Single Locus Effects on Susceptibility, Infectivity and Recovery Rates in an Epidemic using Temporal Data.**
C. M. Pooley[*1], *S. C. Bishop*[1] *and G. Marion*[2], [1]*The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom,* [2]*Biomathematics and Statistics Scotland, Edinburgh, United Kingdom*

Swine Breeding (2)
Chair: Brian P. Kinghorn, University of New England
Bayshore Grand Ballroom A

1:30 PM 378 **Genetic Parameter for Litter Quality Traits.**
H. R. Brandt[*], *Institute of Animal breeding and Genetics, Giessen, Germany*

1:45 PM 379 **Genetic Analysis of Birth Weight Uniformity in Pigs: Comparison of Methods.**
E. Sell-Kubiak[*1], *P. Bijma*[1], *E. F. Knol*[2] *and H. A. Mulder*[1], [1]*Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands,* [2]*TOPIGS Research Center IPG, Beuningen, Netherlands*

2:00 PM 380 **Social Genetic Effects for Litter Size of Sows Housed in Groups During Gestation.**
K. L. Bunter[*], *Animal Genetics and Breeding Unit, UNE, Armidale, Australia*

2:15 PM 381 **Most of the Long-Term Genetic Gains from Optimum-Contribution Selection can be Realised with Restrictions Imposed.**
*M. Henryon[*1,2], T. Ostersen[3], B. Ask[3], A. C. Sørensen[4] and P. Berg[5], [1]Danish Agriculture and Food Council, Pig Research Center, Copenhagen, Denmark, Copenhagen, Denmark, [2]School of Animal Biology, University of Western Australia, Crawley, Australia., Crawley, Australia, [3]Pig Research Centre, Copenhagen, Denmark, [4]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [5]Nordic Genetic Resource Centre, Ås, Norway*

2:30 PM 382 **Effect of a Low Energy, High Fiber Diet Challenge on Yorkshire Pigs Selected for Residual Feed Intake.**
*E. D. Mauch[*1], J. M. Young[2], J. F. Patience[1], N. K. Gabler[1] and J. C. M. Dekkers[1], [1]Iowa State University, Ames, [2]North Dakota State University, Fargo*

2:45 PM 383 **Improving Genetic Evaluation of Litter Size using a Single-step Model.**
*X. Guo[*1], O. F. Christensen[1], T. Ostersen[2], D. A. Sørensen[1], Y. Wang[3], M. S. Lund[1] and G. Su[1], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Pig Research Centre, Copenhagen, Denmark, [3]College of Animal Science and Technology, China Agricultural University, Beijing, China*

Symposium: Genetics of Trait Complexes - Disease Resistance
Chair: Larry A. Kuehn, USDA, ARS, U.S. Meat Animal Research Center
Stanley Park Ballroom

1:30 PM 106 **Is There a Genetic Solution to Bovine Respiratory Disease Complex?**
L. A. Kuehn[*], R. J. Leach, T. G. McDaneld, J. W. Keele, C. G. Chitko-McKown, S. A. Jones and R. M. Thallman, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE

2:00 PM 107 **Disease Genetics: Successes, Challenges and Lessons Learnt.**
S. C. Bishop[*], The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom

2:30 PM 108 **Genetic Resistance to Parasites in Small Ruminants: from Knowledge to Implementation in the Tropics.**
N. Mandonnet[*], M. Mahieu, G. Alexandre, M. Gunia and J. C. Bambou, INRA-UR0143, Unité de Recherches Zootechniques, INRA Antilles-Guyane, Petit-Bourg, France

Symposium: Genomic Selection in Beef Cattle
Chair: David Johnston, University of New England
Bayshore Grand Ballroom B-C

1:30 PM 258 **Genomic Selection in Nelore Cattle in Brazil.**
R. Carvalheiro[*], Sao Paulo State University (UNESP), Jaboticabal, Brazil

2:00 PM 259 **Genome Wide Imputation in Canadian Beef Cattle.**
F. S. Schenkel[*], Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada

2:30 PM 260 **Genomics for Pedigree and Cross-bred Beef Cattle Populations; Some Eperiences from Ireland.**
*A. Cromie[*1], F. Kearney[1], R. Evans[2] and D. P. Berry[3], [1]Irish Cattle Breeding Federation, Cork, Ireland, [2]Irish Cattle Breeding Federation, Co.Cork, Ireland, [3]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland*

Genetics of Trait Complexes - Lactation
Chair: Juan F. Medrano, University of California
Bayshore Grand Ballroom A

4:00 PM 140 **Milking Efficiency – A Milkability Trait for Automatically Milked Cows.**
*P. Lovendahl[*1], J. Lassen[2] and M. G. Chagunda[3], [1]Centre for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Center of Quantitative Genetics and Genomics,*

Department of Molecular Biology and Genetics, Aarhus University, Aarhus, Denmark, [3]Scottish Rural University College (SRUC), Edinburgh, United Kingdom

4:15 PM 141 **Genome Wide Association Analyses Identify New Loci for Milking Speed and Temperament in North American Holsteins.**
*M. K. Abo-Ismail[*1,2], S. P. Miller[1,3,4,5], M. Sargolzaei[1,6], D. A. Grossi[1], S. Nayeri[4], S. S. Moore[7], G. S. Plastow[4], P. Stothard[4] and F. S. Schenkel[1], [1]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [2]Animal and Poultry Science, Damanhour University, Damanhour, Egypt, [3]AgResearch, Invermay, Mosgiel, New Zealand, [4]University of Alberta, Edmonton, AB, Canada, [5]University of Queensland, Centre for Animal Science, QAAFI, St. Lucia, Australia, [6]The Semex Alliance, Guelph, ON, Canada, [7]The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, St Lucia, Australia*

4:30 PM 142 **Beta-Lactoglobulin Content of Bovine Milk is Affected by Multiple Mutations on BTA11.**
*H. Bovenhuis[*1] and N. Bédère[2], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]Wageningen University, Wageningen, Netherlands*

4:45 PM 143 **Identification of QTL and Candidate Mutations Affecting Major Milk Proteins in Three French Dairy Cattle Breeds.**
*M. P. Sanchez[*1], A. Govignon-Gion[1], M. Ferrand[2], M. Gelé[2], D. Pourchet[3], M. N. Rossignol[1], S. Fritz[1], M. Boussaha[1], A. Capitan[1], D. Rocha[1], G. Miranda[1], P. Martin[1], M. Brochard[2] and D. Boichard[1], [1]INRA, UMR1313 GABI, Jouy-en-Josas, France, [2]Idele, Paris, France, [3]ECEL, Roulans, France*

5:00 PM 144 **Genomic Regions Affecting Cheese Making Properties Identified in Danish Holsteins.**
*V. R. Gregersen[*1], H. P. Bertelsen[1], N. A. Poulsen[2], L. B. Larsen[2], F. Gustavsson[3], M. Glantz[3], M. Paulsson[3], A. J. Buitenhuis[4] and C. Bendixen[5], [1]Aarhus University, Molecular Biology and Genetics, Tjele, Denmark, [2]Aarhus University, Food Science, Tjele, Denmark, [3]Lund University, Food Technology, Engineering and Nutrition, Lund, Sweden, [4]Aarhus University, Center for Quantitative Genetics and Genomics, Dept. of Molecular Biology and Genetics, Tjele, Denmark, [5]Dept. Molecular Biology and Genetics, Aarhus University, Tjele, Denmark*

5:15 PM 145 **Genetics of Milk Coagulation Properties Predicted by Milk Mid-Infrared Spectroscopy Analysis of Irish Dairy Cows.**
*G. Visentin[*1,2], A. A. Mc Dermott[1,2], S. McParland[3], D. P. Berry[1] and M. De Marchi[2], [1]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [2]Department of Agronomy, Food, Natural resources, Animals and Environment, University of Padova, Legnaro, Italy, [3]Teagasc, Moorepark, Fermoy, Co. Cork, Ireland*

Management of Animal Genetic Resources
Chair: Paul Boettcher, FAO
Cypress Room

4:00 PM 047 **The Use of Whole Genome Sequence Data to Estimate Genetic Relationships Including Rare Alleles Information.**
*S. E. Eynard[*1,2,3], J. J. Windig[1,4], G. Leroy[2,3], E. Verrier[2,3], S. J. Hiemstra[1,4], R. van Binsbergen[1,5] and M. P. L. Calus[1], [1]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands, [2]AgroParisTech, Paris, France, [3]INRA UMR 1313 GABI, Jouy en Josas, France, [4]Centre for Genetic Resources the Netherlands, Wageningen UR, Wageningen, Netherlands, [5]Biometris, Wageningen UR, Wageningen, Netherlands*

4:15 PM 048 **A Dedicated SNP Panel for Evaluating Genetic Diversity in a Composite Cattle Breed.**
*H. D. Blackburn[*1], S. R. Paiva[2], B. P. Sollero[3], P. Biegelmeyer[4], A. R. Caetano[5] and F. F. Cardoso[6], [1]USDA-ARS-National Animal Germplasm Program, Fort Collins, CO, [2]EMBRAPA, Braslia, Brazil, [3]Embrapa Southern Region Animal Husbandry, Bagé, Bagé, Brazil, [4]Federal University of Pelotas, Pelotas, Brazil, [5]Embrapa Genetic Resources and Biotecnology, Brasilia, Brazil, [6]Embrapa Southern Region Animal Husbandry, Bage, Brazil*

4:30 PM 049 **Optimizing Genetic Management within Populations with a Simulation Tool.**
*J. J. Windig[*1,2], S. J. Hiemstra[2,3] and K. Oldenbroek[2], [1]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands, [2]Centre for Genetic Resources the Netherlands, Wageningen UR, Wageningen, Netherlands, [3]Animal Breeding & Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands*

4:45 PM 050 **Genetic Evaluation of Prolificacy of Two Local Swine Populations Under a Recording and Testing System on Low-Input Smallholder Mixed Farms in Northern Vietnam.**
*P. C. Muth[*1], A. Markemann[1], L. T. T. Huyen[2] and A. Valle Zárate[1], [1]University of Hohenheim, Stuttgart, Germany, [2]National Institute of Animal Sciences, Hanoi, Vietnam*

5:00 PM 051 **Assessing the Effects on Litter Size of Age of Inbreeding in an Ancient Line of Large White Pigs.**
L. Silió[*], J. Rodrigañez and M. C. Rodríguez, INIA, Madrid, Spain

5:15 PM 052 **An Observatory of the Genetic Variability of Ruminants and Equids Breeds.**
*C. Danchin-Burge[*1], E. Verrier[2,3], D. Laloe[3], R. Saintilan[3,4] and G. Leroy[2,3], [1]Institut de l'Elevage, Paris, France, [2]AgroParisTech, Paris, France, [3]INRA UMR 1313 GABI, Jouy en Josas, France, [4]UNCEIA, Paris, France*

Selection Theory - Managing Genetic Variance
Chair: Jack C. M. Dekkers, Iowa State University
Bayshore Grand Ballroom D

4:00 PM 021 **Selection on Recombination Rate to Increase Genetic Gain.**
G. Mészáros[*], G. Gorjanc, J. Jenko, J. A. Woolliams and J. M. Hickey, The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom

4:15 PM 022 **Optimum Contribution Selection Combined with Weighting Rare Favourable Alleles Increases Long-Term Genetic Gain.**
H. Liu[*], A. C. Sørensen and P. Berg, Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark

4:30 PM 023 **An Iterative Algorithm for Optimum Contribution Selection in Large Scale Breeding Programs.**
*B. S. Dagnachew[*1] and T. H. E. Meuwissen[2], [1]Norwegian University of Life Sciences, Aas, Norway, [2]Norwegian University of Life Sciences, Ås, Norway*

4:45 PM 024 **The Structural Impact of Implementing Optimal Contribution Selection in a Commercial Pig Breeding Population.**
*D. M. Howard[*1], R. Pong-Wong[1], P. W. Knap[2], V. D. Kremer[2] and J. A. Woolliams[1], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]Genus-PIC, Schleswig, Germany*

5:00 PM 025 **Increased Genetic Gains in Sheep Breeding Programs from using Female Reproductive Technologies Combined with Genomic Selection.**
*T. Granleese[*1,2], S. Clark[1] and J. van der Werf[1], [1]University of New England, Armidale, Australia, [2]Sheep Cooperative Research Council, Armidale, Australia*

5:15 PM 026 **Diminishing Marginal Returns From Genomic Selection As More Selection Candidates Are Phenotyped.**
*T. O. Okeno[*1], M. Henryon[2,3] and A. C. Sørensen[4], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Aarhus, Denmark, [2]School of Animal Biology, University of Western Australia, Crawley, Australia., Crawley, Australia, [3]Danish Agriculture and Food Council, Pig Research Center, Copenhagen, Denmark, Copenhagen, Denmark, [4]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark*

Symposium: Genetics of Trait Complexes: Growth and Development
Chair: Michael D. MacNeil, Delta G
Bayshore Grand Ballroom B-C

4:00 PM 134 **Metabolomics: A Pathway for Improved Understanding of Genetic Modulation of Mammalian Growth and Tissue Deposition.**
P. Widmann, R. Weikard and C. Kühn[*], Leibniz Institute for Farm Animal Biology, Dummerstorf, Germany

4:30 PM 135 **Convergence of Genetic and Environmental Factors on Epigenome to Regulate Animal Growth and Development.**
M. Du[*] and M. J. Zhu, Washington State University, Pullman

5:00 PM 136 **Epigenetics and Phenotypic Variability: Some Interesting Insights from Birds.**
*L. Frésard[1], M. Morisson[1], J. M. Brun[1], A. Collin[2], B. Pain[3], F. Minvielle[4] and F. Pitel[*1], [1]UMR 1388 INRA / INPT ENSAT / INPT ENVT, GenPhySE, Castanet-Tolosan, France, [2]INRA, UR83, Recherches Avicoles, Nouzilly, France, [3]INSERM, U846, INRA, USC1361, Institut Cellule Souche et Cerveau, Bron, France, [4]UMR 1313 INRA/AgroParisTech, GABI, Jouy en Josas, France*

Symposium: Methods and Tools - Bioinformatics (2)
Chair: James M. Reecy, Iowa State University
Bayshore Grand Ballroom E-F

4:00 PM 172 **Cyberinfrastructure for Life Sciences - iAnimal Resources for Genomics and Other Data Driven Biology.**
J. M. Reecy[*], Iowa State University, Ames

4:30 PM 173 **Pedigree-Based Haplotype Reconstruction, Identification of Cross-Overs and Detection of Map and Genotyping Errors using PHASEBOOK.**
T. Druet[*] and M. Georges, University of Liège, Liège, Belgium

5:00 PM 174 **From Data to Knowledge: Translating Functional Genomics Data into Information for Livestock Production.**
*F. McCarthy[*1], C. R. Gresham[2], J. E. Koltes[3], M. T. Arick[2], E. Lyons[1], M. W. Vaughn[4], E. T. Dawson[5], N. Hopkins[1] and S. C. Burgess[1], [1]University of Arizona, Tucson, [2]Mississippi State Unversity, Starkville, [3]Iowa State University, Ames, [4]Texas Advance Computing Center, University of Texas, Austin, [5]Texas Advanced Computing Center, Austin, TX*

Symposium: Statistical Tools for Mapping QTL and Genes
Chair: Michael E. Goddard, Department of Environment and Primary Industries
Stanley Park Ballroom

4:00 PM 199 **A Research Plan for the Identification of QTL.**
M. E. Goddard[*], Department of Primary Industries, Melbourne, Australia

4:30 PM 200 **Application of Large-Scale Sequence Datasets for the Discovery of Genomic Variations of Economic Importance in Dairy Cattle.**
R. Spelman[*], K. Tiplady, C. Harland, A. M. Winkelman, R. G. Sherlock, M. D. Keehan and M. Littlejohn, Livestock Improvement Corporation, Hamilton, New Zealand

5:00 PM 201 **Application of Whole-Genome Prediction Methods for Genome-Wide Association Studies: A Bayesian Approach.**
*R. L. Fernando[*1], D. J. Garrick[2], A. Toosi[1] and J. C. M. Dekkers[1], [1]Iowa State University, Ames, [2]Massey University, Palmerston North, New Zealand*

Poster Presentations

The posters will be presented as ePosters at the 2014 WCGALP meeting. Large computer screens will be setup in the poster area and will display the electronic version of the posters. The posters will be available for viewing all day on the day of their listing starting at 7:30 AM. The presenting authors will be available for questions during the time indicated for that session.

Monday, August 18, 2014

Posters: Beef Cattle Breeding (Group 1)
Chair: Stephen P. Miller, AgResearch, David Johnston, University of New England and Roberto Carvalheiro, Sao Paulo State University (UNESP)

Presentation Time: 9:30 AM – 10:00 AM

709 **Genomic-Polygenic Evaluation of Multibreed Angus-Brahman Cattle for Postweaning Ultrasound and Weight Traits with Actual and Imputed Illumina50k SNP Genotypes.**
*M. A. Elzo[*1], M. G. Thomas[2], D. D. Johnson[3], C. A. Martinez[1], G. C. Lamb[4], D. O. Rae[3], J. D. Wasdin[3] and J. D. Driver[3], [1]Department of Animal Sciences, University of Florida, Gainesville, [2]Colorado State University, Department of Animal Sciences, Fort Collins, [3]University of Florida, Gainesville, [4]University of Florida, Marianna*

710 **Genetic Parameters for Calving, Weight, and Carcass Performance of an Unselected Endangered Cattle Breed: The Austrian Murbodner.**
*S. Eaglen[*1], J. Soelkner[1], B. fuerst-Waltl[2] and C. Fuerst[3], [1]University of Natural Resources and Life Sciences, Vienna, Austria, [2]University of Natural Resources and Life Sciences, Vienna, Vienna, Austria, [3]ZuchtData EDV-Dienstleistungen GmbH, Vienna, Austria*

711 **Imputation Accuracy using FImpute and BEAGLE Software in Brazilian Synthetic Cattle Breed.**
*T. C. S. Chud[1], R. V. Ventura[2,3,4], F. S. Schenkel[5], R. Carvalheiro[6], M. E. Buzanskas[1], I. Urbinati[1], L. C. Almeida Regitano[7], C. R. Marcondes[8] and D. P. Munari[*9], [1]Univ Estadual Paulista Julio de Mesquita Filho, Jaboticabal, Brazil, [2]University of Guelph, Guelph, ON, Canada, [3]Beef Improvement Opportunities, Guelph, ON, Canada, [4]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [5]Center for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [6]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil, [7]Embrapa Southeast Livestock, Sao Carlos, Brazil, [8]Brazilian Agricultural Research Corporation (Embrapa), Sao Carlos, Brazil, [9]Universidade Estadual Paulista "Júlio de Mesquita Filho", Jaboticabal, Brazil*

712 **Selection Signatures in Canchim Beef Cattle.**
*I. Urbinati[*1], M. E. Buzanskas[1], T. C. S. Chud[1], F. B. Mokry[2], L. C. Almeida Regitano[3], R. H. Higa[4] and D. P. Munari[5], [1]Univ Estadual Paulista Julio de Mesquita Filho, Jaboticabal, Brazil, [2]Universidade Federal de São Carlos, São Carlos, Brazil, [3]Embrapa Southeast Livestock, Sao Carlos, Brazil, [4]Embrapa Informática Agropecuária, Campinas, Brazil, [5]Universidade Estadual Paulista "Júlio de Mesquita Filho", Jaboticabal, Brazil*

713 **Accuracy of Genomic Prediction for Tick Resistance in Braford and Hereford Cattle.**
*F. F. Cardoso[*1], B. P. Sollero[2], H. B. Comin[1], C. G. Gomes[1], V. M. Roso[3], R. H. Higa[4], A. R. Caetano[5], M. J. Yokoo[1] and I. Aguilar[6], [1]Embrapa Southern Region Animal Husbandry, Bage, Brazil, [2]Embrapa Southern Region Animal Husbandry, Bagé, Bagé, Brazil, [3]Gensys Consultores Associados, Porto Alegre, Brazil, [4]Embrapa Informática Agropecuária, Campinas, Brazil, [5]Embrapa Genetic Resources and Biotecnology, Brasilia, Brazil, [6]INIA, Las Brujas, Uruguay*

714 **Breed Additive and Heterosis Effects on Feedlot and Carcass Traits in Beef Cattle.**
*A. Theunissen[1,2], M. M. Scholtz[*2,3], M. D. MacNeil[2,4] and F. W. C. Neser[2], [1]Vaalharts Research Station, Northern Cape, Jan Kempdorp, South Africa, [2]University of the Free State, Bloemfontein, South Africa, [3]ARC-Animal Production Institute, Irene, South Africa, [4]Kansas State University, Manhattan*

715 **Genetic Trend of Stillbirths in Japanese Black Cattle.**
*S. Maeda[*1], K. Kuchida[1], M. Hosono[2], M. Sato[2] and K. Inoue[3], [1]Obihiro University of Agriculture and Veterinary medicine,*

Obihiro, Japan, [2]National Livestock Breeding Center, Nishishirakawa-gun, Japan, [3]National Livestock Breeding Center, Nishishirakawa-gun, Fukushima, Japan

716 **Crossbreeding to Increase Beef Production: Breed-specific Effects on Sensory Properties.**
A. Theunissen[*], Northern Cape Department of Agriculture, Land Reform and Rural Development, Jan Kempdorp, South Africa

717 **Accuracy of Genomic Prediction using Two Admixed Crossbred Populations.**
*A. Vallee[*1,2], J. A. M. van Arendonk[2] and H. Bovenhuis[2], [1]Genes Diffusion, Douai, France, [2]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands*

718 **Genetic Parameters for Body Conformation Scores and Carcass Traits Measured by Real-Time Ultrasound in Nellore Cattle.**
J. L. B. M. Grosso[*], G. A. Oliveira Junior, I. R. Menezes, E. C. Mattos, J. B. S. Ferraz and J. P. Eler, NAP-GMABT/FZEA/University of Sao Paulo, Pirassununga, Brazil

719 **Microarray Analysis Indicates that Vitamin A Alters Expression Profiles of Bovine Intramuscular Preadipocytes during Adipogenesis.**
*D. Taniguchi[*1], A. Hasegawa[2], I. Matsuno[2] and Y. Mizoguchi[2], [1]Meiji University, kawasaki, Japan, [2]Meiji University, Kawasaki, Japan*

720 **Effect of Acetic Acid and Glucose on Fatty Acid Synthesis Related Gene Expression Profiles During Bovine Intramuscular Adipogenesis.**
I. Matsuno[*], Meiji University, Kawasaki, Japan

721 **Evaluation of Cytoplasmic Genetic Effects for Production and Reproduction Traits in Afrikaner Cattle.**
*F. W. C. Neser[*1], J. B. van Wyk[1] and M. M. Scholtz[1,2], [1]University of the Free State, Bloemfontein, South Africa, [2]ARC-Animal Production Institute, Irene, South Africa*

722 **Graded Buffalypso Male Growing Curve Estimation using Non Lineal Mixed Models.**
M. Méndez[*], Institute of Animal Science, San José de las Lajas, Cuba

723 **Effects of Quantitative Trait Loci on Iron Content of Bovine Longissimus Dorsi Muscle.**
*P. C. Tizioto[*1], J. F. Taylor[2], J. E. Decker[2], C. F. Gromboni[3], M. A. Mudadu[4], R. D. Schnabel[2], L. L. Coutinho[5], G. B. Mourao[6], R. T. Nassu[7], F. A. Donatoni Bressani[7], P. Tholon[7], T. S. Sonstegard[8], M. M. D. Alencar[7], R. R. Tullio[7], J. M. Reecy[9], A. R. Nogueira[7] and L. C. Almeida Regitano[7], [1]Federal University of São Carlos, São Carlos, Brazil, [2]University of Missouri, Columbia, [3]Instituto Federal de Educação, Ciência e Tecnologia da Bahia (IFBA), Valença, Brazil, [4]Embrapa Pecuária Sudeste, São Carlos, Brazil, [5]Universidade de São Paulo/Esalq, Piracicaba, Brazil, [6]Department of Animal Science, University of São Paulo/ESALQ, Piracicaba, Brazil, [7]Embrapa Southeast Livestock, Sao Carlos, Brazil, [8]USDA, ARS, BFGL, Beltsville, MD, [9]Iowa State University, Ames*

724 **Estimation Of Genetic Parameters Of Type Traits For Namibian Brahman Beef Cattle.**
M. D. Fair[*], F. W. C. Neser and J. B. van Wyk, University of the Free State, Bloemfontein, South Africa

Posters: Prediction using Molecular Information (Group 1)
Chair: Dorian J. Garrick, Iowa State University, Roel F. Veerkamp, Wageningen University, and Esa A. Mäntysaari, MTT Agrifood Research Finland

Presentation Time: 9:30 AM – 10:00 AM

451 **Genome-Wide Association Study for Loin Marbling Score in Duroc Pigs.**
*A. Neustaeter[*1], D. A. Grossi[2], M. Jafarikia[3], M. Sargolzaei[4] and F. S. Schenkel[2], [1]University of Guelph, Guelph, ON, Canada, [2]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [3]Canadian Centre for Swine Improvement, Ottawa, ON, Canada, [4]The Semex Alliance, Guelph, ON, Canada*

452 **Genomic Evaluation using 50K and Imputed HD Genotypes in Guzera (*Bos indicus*) Breed.**
*S. A. Boison[*1], D. J. A. Santos[2], J. F. Garcia[3], J. Soelkner[1], M. G. C. D. Peixoto[4] and M. V. G. B. da Silva[5], [1]University of Natural Resources and Life Sciences, Vienna, Austria, [2]UNESP Univ Estadual Paulista, Jaboticabal, Brazil, [3]Faculdade de Medicina*

Veterinária de Araçatuba, Univ Estadual Paulista, Araçatuba, Brazil, [4]Embrapa Gado de Leite, Jiuz de Fora, Brazil, [5]Embrapa Dairy Cattle, Juiz de Fora, Brazil

453 **Balancing Conservation and Production: A Molecular Genetic Approach in Aid of Buffalo Ranching.**
*B. Greyling[*1], B. van Vuuren[2], P. van Hooft[3] and A. A. Maiwashe[4,5], [1]Agricultural Research Council, Centurion, South Africa, [2]University of Johannesburg, Johannesburg, South Africa, [3]Resource Ecology Group, Wageningen University, Wageningen, Netherlands, [4]University of the Free State, Bloemfontein, South Africa, [5]ARC-Animal Production Institute, Irene, South Africa*

454 **Improving Predictive Ability of Selected Subsets of Single Nucleotide Polymorphisms in a Moderately Sized Dairy Cattle Population.**
*J. I. Weller[*1], E. Ezra[2], E. Seroussi[1], M. Shemesh[2] and M. Ron[1], [1]ARO, The Volcani Center, Bet Dagan, Israel, [2]Israel Cattle Breeders Association, Caesaria, Israel*

455 **Is the use of Formulas a Reliable way to Predict the Accuracy of Genomic Selection?**
*S. Brard[*1] and A. Ricard[2,3], [1]INRA, UMR 1388, Castanet-Tolosan, France, [2]INRA, UMR 1313, Jouy-en-Josas, France, [3]IFCE, Recherche et Innovation, Exmes, France*

456 **Association between GDF9, FecB and Prolactin Gene Polymorphisms and Prolificacy of Awassi Sheep.**
K. I. Jawasreh[*], A. Al-Qaisi and F. T. Awawdeh, Jordan University of Science and Technology, Irbid, Jordan

457 **The Role of Obesity Genes for Milk Fat Yield in Holstein Dairy Cattle.**
*L. G. Zielke[1], R. H. Bortfeldt[2], J. Tetens[3], G. Thaller[4] and G. A. Brockmann[*2], [1]Humboldt-Universität zu Berlin, Berlin, Germany, [2]Department for Crop and Animal Sciences, Humboldt-Universität zu Berlin, Berlin, Germany, [3]Institute of Animal Breeding and Husbandry, Christian-Albrechts-Universität zu Kiel, Kiel, Germany, [4]Christian-Albrechts-Universität, Kiel, Germany*

458 **Accuracy of Genomic Prediction in French Charolais Cattle Population using High-density Chip.**
*T. Tribout[*1], M. Gunia[2,3], R. Saintilan[4], E. Vénot[3], M. N. Fouilloux[5] and F. Phocas[3], [1]INRA UMR 1313 GABI, Jouy-en-Josas, France, [2]INRA, UMR1388 GenPhySE, Castanet-Tolosan, France, [3]INRA, UMR1313 GABI, Jouy-en-Josas, France, [4]UNCEIA, Jouy-en-Josas, France, [5]Institut de l'Elevage - Idele, Jouy-en-Josas, France*

459 **Genomic Evaluations using Combined Reference Population from Montbéliarde and French Simmental Breeds.**
*C. Hoze[*1,2], S. Fritz[1,2], F. Phocas[2], D. Boichard[2], V. Ducrocq[2] and P. Croiseau[2], [1]UNCEIA, Paris, France, [2]INRA, UMR1313 GABI, Jouy-en-Josas, France*

460 **Estimation of Linkage Disequilibrium and Effective Population Size using Whole Genome Single Nucleotide Polymorphisms in Korean Native Pig and Landrace.**
*J. E. Park[*1,2], J. H. Lee[2], J. H. Son[2] and D. Lee[2], [1]Seoul National University, Seoul, South Korea, [2]Hankyong National University, Anseong, South Korea*

461 **Estimating Variance Components for Growth, Feed Efficiency and Carcass Merit Traits in Angus Steers using Additive and Dominance Genomic Relationship Matrices.**
L. Chen[*], University of Alberta, Edmonton, AB, Canada

462 **Haplotype-Assisted Genomic Evaluations in Nordic Red Dairy Cattle.**
*T. Knürr[*1], I. Strandén[1], M. Koivula[1], G. P. Aamand[2] and E. A. Mäntysaari[1], [1]MTT Agrifood Research Finland, Biotechnology and Food Research, Jokioinen, Finland, [2]NAV Nordic Cattle Genetic Evaluation, Aarhus, Denmark*

463 **Imputation of Genotypes in Danish Two-Way Crossbred Pigs using Low Density Panels.**
*T. Xiang[*1,2], O. F. Christensen[1], A. Legarra[2] and T. Ostersen[3], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]INRA, Castanet-Tolosan, France, [3]Pig Research Centre, Copenhagen, Denmark*

464 **Genomic Breeding Values for Ungenotyped Individuals.**
B. Tier[*], Animal Genetics and Breeding Unit, Armidale, Australia

465 **Ancestral Haplotypes, Quantal Genomics and Healthy Beef.**
*E. J. Steele[*1], S. S. Lloyd[1], S. Lester[1,2], J. F. Williamson[1,3], D. Bayard[4] and R. L. Dawkins[1,5,6], [1]C.Y.O'Connor ERADE Village*

Foundation, Canning Vale, Australia, [2]Hanson Institute, The Royal Adelaide Hospital, Adelaide, Australia, [3]Division Health Sciences, Murdoch University, Perth, Australia, [4]Global Reproductive Solutions, Goorambat, Victoria, Australia, [5]Division of Health Science, Murdoch University, Perth, Australia, [6]Faculty of Medicine and Dentistry, University of Western Australia, Perth, Australia

466 **Bias of Genetic Trend of Genomic Predictions Based on both Real and Simulated Dairy Cattle Data.**
*P. Ma[*1], M. S. Lund[1], U. S. Nielsen[2], G. P. Aamand[3], A. C. Sørensen[1] and G. Su[1], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Knowledge Center for Agriculture, Aarhus, Denmark, [3]NAV Nordic Cattle Genetic Evaluation, Aarhus, Denmark*

Posters: Beef Cattle Breeding (Group 2)
Chair: Stephen P. Miller, AgResearch, David Johnston, University of New England and Roberto Carvalheiro, Sao Paulo State University (UNESP)

Presentation Time: 10:00 AM – 10:30 AM

725 **Genetic Relationship amongst Reproductive Traits in Nellore Cattle.**
*A. R. Guarini[1], H. H. R. Neves[2], F. S. Schenkel[3], R. Carvalheiro[4], P. Tholon[*5], J. A. Oliveira[1] and S. A. Queiroz[1], [1]Universidade Estadual Paulista, Jaboticabal, Brazil, [2]GenSys Associated Consultants, Porto Alegre, Brazil, [3]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [4]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil, [5]Embrapa Pecuária Sudeste, São Carlos, Brazil*

726 **Non-Hierarchical Cluster Analysis with the Breeding Values for Reproductive and Productive Traits in Beef Cattle.**
*C. C. P. Paz[*1,2], H. L. Moreira[2], R. P. Savegnago[3], M. E. Buzanskas[3], R. B. Lôbo[2] and D. P. Munari[4], [1]SAA/APTA/Instituto de Zootecnia-Centro de Bovinos de Corte, Sertãozinho-SP, Brazil, [2]Universidade de São Paulo, Faculdade de Medicina de Ribeirão Preto - Departamento de Genética (USP/FMRP), Ribeirão Preto-SP, Brazil, [3]Universidade Estadual Paulista Júlio de Mesquita, Faculdade de Ciências Agrárias e Veterinárias, Departamento de Ciências Exatas, Jaboticabal-SP, Brazil, [4]Universidade Estadual Paulista "Júlio de Mesquita Filho", Jaboticabal, Brazil*

727 **Accuracy of Genotype Imputation with Different Low Density Panels in Braford and Hereford Cattle.**
*M. L. Piccoli[*1,2,3], J. Braccini Neto[1], F. F. Cardoso[4], M. Sargolzaei[3,5] and F. S. Schenkel[3], [1]Universidade Federal do Rio Grande do Sul - Departamento de Zootecnia, Porto Alegre, Brazil, [2]GenSys Consultores Associados S/S, Porto Alegre, Brazil, [3]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [4]Embrapa Southern Region Animal Husbandry, Bage, Brazil, [5]The Semex Alliance, Guelph, ON, Canada*

728 **Haplotype Diversity of Ten US Beef Cattle Breeds Captured by Different Definitions of Haplotypes Based on BovineSNP50K Chip.**
H. Su[*], R. L. Fernando and D. J. Garrick, Iowa State University, Ames

729 **Determining the Number of Animals Required to Accurately Determine Breed Composition using Genomic Data.**
*S. Connolly[*1], E. K. Piper[2], J. M. Seddon[2], M. R. Fortes[3] and M. J. Kelly[4], [1]The University of Queensland, School of Agriculture & Food Science, Gatton, Australia, [2]The University of Queensland, School of Veterinary Science, Gatton, Australia, [3]The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, St Lucia, Australia, [4]The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, Brisbane, Australia*

730 **Relationships among Genome DNA Methylation Patterns in each Upstream CG Region on the 22 of Genes Controlled by Epigenetic System and Economic Traits in Japanese Black Cattle.**
Y. Suda[*], Miyagi University, Sendai, Japan

731 **Across-Country Genetic Parameters in Beef Cattle for Interbeef Weaning Weight Genetic Evaluation.**
*T. Pabiou[1], M. Nilforooshan[*2], D. Laloe[3], E. Hjerpe[2] and E. Venot[4], [1]Irish Cattle Breeding Federation, Cork, Ireland, [2]Interbull center, Uppsala, Sweden, [3]INRA GABI, Jouy en Josas, France, [4]INRA UMR 1313 GABI, Jouy-en-Josas, France*

732 **Beef Performance Evaluations in a Multi-Layered and Mainly Crossbred Population.**
*R. Evans[*1], F. Kearney[2], J. McCarthy[2], A. Cromie[2] and T. Pabiou[2], [1]Irish Cattle Breeding Federation, Co.Cork, Ireland, [2]Irish Cattle Breeding Federation, Cork, Ireland*

733 **Genetic Parameters of Body Condition Score and and Reproductive Traits of Nellore Cows.**
*S. A. Queiroz[*1], F. M. Paterno[1], A. F. D. A. Fernandes[1], H. H. R. Neves[2], J. A. Oliveira[1] and R. Carvalheiro[3], [1]Universidade Estadual Paulista, Jaboticabal, Brazil, [2]GenSys Associated Consultants, Porto Alegre, Brazil, [3]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil*

734 **Economic Values for a Production System with Nelore Beef Cattle in the Central Region of Brazil.**
*H. L. Moreira[*1], M. A. Prata[1], A. E. Vercesi Filho[2], M. L. P. Lima[2], R. B. Lôbo[1] and C. C. P. Paz[1,2], [1]Universidade de São Paulo, Faculdade de Medicina de Ribeirão Preto - Departamento de Genética (USP/FMRP), Ribeirão Preto-SP, Brazil, [2]SAA/APTA/Instituto de Zootecnia-Centro de Bovinos de Corte, Sertãozinho-SP, Brazil*

735 **Analysis of Copy Number Variation Regions in a Nellore Population Evaluated for Feed Efficiency.**
*G. A. Oliveira Junior[*1], F. S. B. Rey[2], M. V. G. B. da Silva[3], M. H. A. Santana[1], P. A. Alexandre[1], J. P. Eler[1] and J. B. S. Ferraz[1], [1]NAP-GMABT/FZEA/University of Sao Paulo, Pirassununga, Brazil, [2]Sao Paulo State University (UNESP), Jaboticabal, Brazil, [3]Embrapa Dairy Cattle, Juiz de Fora, Brazil*

736 **Genetic and Phenotypic Correlation between Gestation Period and Growth Traits Pre and Post Weaning.**
*H. L. Moreira[1], E. B. Canova[2], A. E. Vercesi Filho[*3], M. L. P. Lima[3] and C. C. P. Paz[1,3], [1]Universidade de São Paulo, Faculdade de Medicina de Ribeirão Preto - Departamento de Genética (USP/FMRP), Ribeirão Preto-SP, Brazil, [2]Centro de Energia Nuclear na Agricultura, Universidade São Paulo, CENA/USP, Piracicaba-SP, Brazil, [3]SAA/APTA/Instituto de Zootecnia-Centro de Bovinos de Corte, Sertãozinho-SP, Brazil*

737 **Estimation of Genetic Parameters for Age at Last Calving as a Measure of Cow Survival in a Population of Nellore Beef Cattle in Brazil.**
*S. B. Ramos[1], S. L. Caetano[*2], R. B. Lôbo[3], L. A. F. Bezerra[4], A. Bonifácio[5] and D. P. Munari[6], [1]UNESP, Jaboticabal, Brazil, [2]Centro Universitário de Barretos, Barretos, Brazil, [3]Universidade de São Paulo, Faculdade de Medicina de Ribeirão Preto - Departamento de Genética (USP/FMRP), Ribeirão Preto-SP, Brazil, [4]FMRP/USP, Ribeirão Preto, Brazil, [5]ANCP, Ribeirão Preto, Brazil, [6]Universidade Estadual Paulista "Júlio de Mesquita Filho", Jaboticabal, Brazil*

738 **Genetic Architecture Of Birth And Weaning Traits In Charolais Beef Cattle.**
*R. Saintilan[*1,2], M. N. Fouilloux[3], A. Capitan[4,5], B. Servin[6], T. Tribout[2], E. Venot[2] and F. Phocas[4], [1]UNCEIA, Jouy-en-Josas, France, [2]INRA UMR 1313 GABI, Jouy-en-Josas, France, [3]Institut de l'Elevage - Idele, Jouy-en-Josas, France, [4]INRA, UMR1313 GABI, Jouy-en-Josas, France, [5]UNCEIA, Paris, France, [6]INRA UMR 1388 GenPhySE, Castanet-Tolosan, France*

739 **Genetic Parameters of Body Condition Score and Growth Traits of Nellore Cows.**
*A. F. D. A. Fernandes[*1], H. H. R. Neves[2], N. Hurtado-Lugo[3], R. Carvalheiro[4], J. A. Oliveira[1] and S. A. Queiroz[1], [1]Universidade Estadual Paulista, Jaboticabal, Brazil, [2]GenSys Associated Consultants, Porto Alegre, Brazil, [3]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil, [4]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil*

740 **Genetic Diversity and Relationships among Spanish Beef Breeds Assessed by a Bovine High-Density Chip.**
*J. J. Cañas-Alvarez[*1], A. González-Rodríguez[2], S. Munilla[2], L. Varona[2], C. J. Díaz[3], J. A. Baró[4], C. Moreno[2], A. Molina[5] and J. Piedrafita[1], [1]Universitat Autònoma de Barcelona, Bellaterra (Barcelona), Spain, [2]Universidad de Zaragoza, Zaragoza, Spain, [3]INIA, Madrid, Spain, [4]Universidad de Valladolid, Palencia, Spain, [5]Universidad de Córdoba, Córdoba, Spain*

Posters: Prediction using Molecular Information (Group 2)
Chair: Dorian J. Garrick, Iowa State University, Roel F. Veerkamp, Wageningen University, and Esa A. Mäntysaari, MTT Agrifood Research Finland

Presentation Time: 10:00 AM – 10:30 AM

468 **Predictive Performance Yielded by Approximate Genomic Matrices.**
*E. Manfredi[*1], C. Carre[1,2] and M. A. Toro[3], [1]INRA, Toulouse, France, [2]IMT Université Paul Sabatier, Toulouse, France, [3]Animal Production Department, Universidad Politecnica de Madrid, Madrid, Spain*

469 **Comparison of Accuracies of Genomic Prediction in French Limousin Cattle Population according to the Number of Markers and to Pedigree Relationship between Training and Validation Populations.**
*M. Barbat[1], T. Tribout[2], R. Saintilan[1], E. Venot[3], M. N. Fouilloux[4] and F. Phocas[*3], [1]UNCEIA, Jouy-en-Josas, France, [2]INRA*

UMR 1313 GABI, Jouy-en-Josas, France, [3]INRA, UMR1313 GABI, Jouy-en-Josas, France, [4]Institut de l'Elevage - Idele, Jouy-en-Josas, France

470 **Estimating Rate of Inbreeding and Effective Population Size using Genomic Data in Norwegian Red Cattle.**
*B. Hillestad[*1], J. A. Woolliams[2], T. H. E. Meuwissen[1], D. I. Våge[1] and G. Klemetsdal[1], [1]Norwegian University of Life Sciences, Ås, Norway, [2]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom*

471 **Quality Control of Genotypes using Heritability Estimates of Gene Content.**
*N. S. Forneris[*1], A. Legarra[2], Z. G. Vitezica[2], S. Tsuruta[3], I. Aguilar[4], R. J. C. Cantet[1,5] and I. Misztal[3], [1]Department of Animal Science, University of Buenos Aires, Buenos Aires, Argentina, [2]INRA, Castanet-Tolosan, France, [3]University of Georgia, Athens, [4]INIA, Las Brujas, Uruguay, [5]CONICET, Buenos Aires, Argentina*

472 **Including Imprinting Effects in Genomic Best Linear Unbiased Prediction Method for Genomic Evaluation.**
M. Nishio[*] and M. Satoh, NARO Institute of Livestock and Grassland Science, Tsukuba, Japan

473 **Compression Efficiency Relationship Matrix: Developing New Methods to Determine Genomic Relationships for Improved Breeding.**
*N. J. Hudson[*1], J. Kijas[2], L. R. Porto-Neto[3] and A. Reverter-Gomez[4], [1]CSIRO, Brisbane, Australia, [2]CSIRO Animal, Food and Health Sciences, Brisbane, Australia, [3]CSIRO Food Futures Flagship, Brisbane, Australia, [4]Food Futures Flagship, CSIRO Animal, Food and Health Sciences, Brisbane, Australia*

474 **Genomic Evaluation of Both Purebred and Crossbred Performances.**
*O. F. Christensen[*1], B. Nielsen[2], P. Madsen[1] and G. Su[1], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Pig Research Centre, Copenhagen, Denmark*

475 **Genome-Wide Association using High Density Genotypes for Calving Difficulty in Dairy and Beef Cattle.**
*D. Purfield[*1], D. Bradley[2], F. Kearney[3], R. Evans[4] and D. P. Berry[5], [1]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co.Cork, Ireland, [2]Department of Genetics, Trinity College Dublin, Dublin, Ireland, [3]Irish Cattle Breeding Federation, Co. Cork, Ireland, [4]Irish Cattle Breeding Federation, Co.Cork, Ireland, [5]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland*

476 **Impact of Relationships between Test and Reference Animals and between Reference Animals on Reliability of Genomic Prediction.**
*X. Wu[*1,2], M. S. Lund[1], D. Sun[2], Q. Zhang[3] and G. Su[1], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]2College of Animal Science and Technology, China Agricultural University, Beijing, China, [3]China Agricultural University, Beijing, China*

477 **Towards Genomic Selection in Danish Warmblood Horses: Expected Impacts and Selective Genotyping Strategy.**
*T. Mark[*1], L. Jönsson[2], M. Holm[3] and K. Christiansen[2], [1]University of Copenhagen, Frederiksberg C, Denmark, [2]Danish Warmblood Association, Maarslet, Denmark, [3]Knowledge Centre for Agriculture, Aarhus, Denmark*

478 **Polymorphism Of Three Milk Protein Genes in Mexican Jersey Cattle.**
*J. L. Zepeda-Batista[*1], B. Alarcon-Zuniga[1], A. Ruiz-Flores[2], R. Nunez-Dominguez[3] and R. Ramirez-Valverde[1], [1]UNIVERSIDAD AUTONOMA CHAPINGO, TEXCOCO, Mexico, [2]Universidad Autónoma Chapingo, Chapingo, Mexico, [3]Universidad Autonoma Chapingo, Chapingo, Mexico*

479 **Impact of Adding Foreign Genomic Information on the Mexican Holstein Imputation Process.**
*F. J. Ruiz-Lopez[*1], A. García-Ruiz[2], G. R. Wiggans[3], C. P. VanTassell[4] and H. H. Montaldo[5], [1]Natl. Cent. for Research on Physiology and Animal Breeding INIFAP, Queretaro, Mexico, [2]National Autonomous University of Mexico (UNAM), Mexico, DF, Mexico, [3]Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD, [4]Bovine Functional Genomics Laboratory ARS-USDA, Beltsville, MD, [5]Universidad Nacional Autónoma de México, DF, Mexico*

480 **Genome Regions Associated to Milk Production Traits and Somatic Cell Score in the Mexican Holstein Population.**
*A. García-Ruiz[*1], F. J. Ruiz-Lopez[2], C. P. VanTassell[3] and H. H. Montaldo[4], [1]National Autonomous University of Mexico (UNAM), Mexico, DF, Mexico, [2]Natl. Cent. for Research on Physiology and Animal Breeding INIFAP, Queretaro, Mexico, [3]Bovine Functional Genomics Laboratory ARS-USDA, Beltsville, MD, [4]Universidad Nacional Autónoma de México, DF, Mexico*

481 **Metabolism of CLA Isomers, c9,t11- & t10,c12 in Adipocyte Cultures and their Effect on Delta-6 Desaturase Expression.**
W. J. Meadus, Agriculture & Agri-Food Canada, Lacombe, AB, Canada*

482 **Association of SNPs and Haplotypes in Adiponectin and Adiponectin Receptors with Pig Meat Quality Traits.**
M. F. Palin[*1], M. Jafarikia[2,3], C. Gariépy[4], F. Fortin[5], L. Maignel[2], S. Wyss[2] and B. Sullivan[2], [1]Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, [2]Canadian Centre for Swine Improvement, Ottawa, ON, Canada, [3]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [4]Agriculture and Agri-Food Canada, St-Hyacinthe, QC, Canada, [5]Centre de développement du porc du Québec, Québec, QC, Canada*

483 **The Effect of Inbreeding on the Prediction of Genomic Values.**
R. P. Savegnago, Univ. Estadual Paulista – FCAV/UNESP, Jaboticabal, Brazil*

Posters: Beef Cattle Breeding (Group 3)
Chair: Stephen P. Miller, AgResearch, David Johnston, University of New England and Roberto Carvalheiro, Sao Paulo State University (UNESP)

Presentation Time: 3:00 PM – 3:30 PM

741 **Genetic Differences in Beef Terminal Traits and Index is Reflected in Phenotypic Performance Difference in Commercial Beef Herds.**
S. M. Connolly[*1], A. Cromie[2] and D. P. Berry[1], [1]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [2]Irish Cattle Breeding Federation, Cork, Ireland*

742 **Metalloproteomics Study of Bovine Longissimus dorsi Muscle Tissue in Selected Animals of the Nellore Breed (Bos indicus).**
L. A. L. Chardulo[*1], W. A. Baldassini[2], L. G. Albuquerque[3], H. N. Oliveira[4], J. A. Silva[5] and P. M. Padilha[6], [1]FMVZ - São Paulo State University, Botucatu, Brazil, [2]ESALQ - São Paulo University, Piracicaba, Brazil, [3]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil, [4]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil, [5]Universidade Estadual Paulista, Botucatu, Brazil, [6]IBB - São Paulo State University, Botucatu, Brazil*

743 **Analysis of Copy Number Variants in Spanish Authoctonous Beef Cattle Breeds.**
T. B. R. Da Silva[1,2], A. González-Rodríguez[3], C. Aviles[4], E. F. Mouresan[3], J. J. Cañas-Álvarez[5], L. Varona[3], M. J. Carabaño[6], P. Martínez Camblor[7] and C. J. Díaz[*6], [1]INIA, Spain, Madrid, Spain, [2]UNESP-Jaboticabal, Brazil, Jaboticabal, Brazil, [3]Universidad de Zaragoza, Zaragoza, Spain, [4]Universidad de Córdoba, Cordoba, Spain, [5]Universitat Autònoma de Barcelona, Bellaterra (Barcelona), Spain, [6]INIA, Madrid, Spain, [7]Universidad de Oviedo, Oviedo, Spain*

744 **Phenotypic and Genetic Association Between Meat and Carcass Traits with Growth Traits in Nellore Cattle.**
R. L. Tonussi[*1], A. F. B. Magalhães[1], R. Espigolan[1], D. G. M. Gordo[1], W. B. Andrade[2], G. C. Venturini[1], L. A. L. Chardulo[3], L. G. Albuquerque[4] and F. S. B. Rey[1], [1]Sao Paulo State University (UNESP), Jaboticabal, Brazil, [2]Universidade Estadual Paulista, Jaboticabal, Brazil, [3]Sao Paulo State University (UNESP), Botucatu, Brazil, [4]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil*

745 **Analysis of Age at First Calving Dealing with Censored Data.**
D. Anastacio Garcia[*1], R. Carvalheiro[2], G. J. M. Rosa[3], B. D. Valente[3] and L. G. Albuquerque[4], [1]Sao Paulo State University (UNESP), Jaboticabal, Brazil, [2]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil, [3]University of Wisconsin, Madison, [4]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil*

746 **Genetic Analysis of Feet and Legs in Nellore Cattle.**
G. Vargas[*1], H. H. R. Neves[2], V. Cardoso[2], D. P. Munari[3] and R. Carvalheiro[4], [1]São Paulo State University, Jaboticabal, Brazil, [2]GenSys Associated Consultants, Porto Alegre, Brazil, [3]Universidade Estadual Paulista "Júlio de Mesquita Filho", Jaboticabal, Brazil, [4]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil*

747 **Accuracy of Genomic Breeding Values for Meat Quality Traits in Nellore Cattle.**
A. F. Braga Magalhães, State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, São Paulo, Brazil, Jaboticabal, Brazil, Jaboticabal, Brazil*

748 **Assessment of Genetic Variability using Pedigree Analysis of the Brahman Breed in Brazil .**
*L. Cavani[1], R. Medeiros de Oliveira Silva[*2], R. K. Ono[3], M. Marques Farah[3], L. O. Duitama Carreño[3] and R. da Fonseca[1], [1]São Paulo State University "Júlio de Mesquita Filho", Dracena, Brazil, [2]São Paulo State University "Júlio de Mesquita Filho, Jaboticabal, Brazil, [3]São Paulo State University "Júlio de Mesquita Filho", Jaboticabal, Brazil*

749 **Searching for Phenotypic Causal Links among Meat Quality Traits in Japanese Black Cattle.**
*K. Inoue[*1,2,3], B. D. Valente[3], N. Shoji[4], T. Honda[2], K. Oyama[2] and G. J. M. Rosa[3], [1]National Livestock Breeding Center, Nishishirakawa-gun, Fukushima, Japan, [2]Kobe University, Kasai, Hyogo, Japan, [3]University of Wisconsin, Madison, [4]Yamagata General Agricultural Research Center, Shinjo, Yamagata, Japan*

750 **Genomic Inbreeding Coefficients in a Sample of Canadian Beef Cattle Breeds.**
*D. Lu[*1], J. Crowley[1], C. Li[2], C. Coros[3], M. DePauw[1], G. S. Plastow[1], S. S. Moore[4], S. P. Miller[5] and P. Stothard[1], [1]University of Alberta, Edmonton, AB, Canada, [2]Agriculture and Agri-Food Canada, Edmonton, AB, Canada, [3]Delta Genomics Centre, Edmonton, AB, Canada, [4]The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, St Lucia, Australia, [5]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada*

751 **Genetic Associations between True Fertility Index and Growth and Reproductive Traits in Beef Cattle.**
*J. A. Hidalgo-Moreno[1], R. Núñez-Domínguez[1], R. Ramírez-Valverde[*1], J. Domínguez-Viveros[2] and F. A. Rodríguez-Almeida[2], [1]Universidad Autónoma Chapingo, Chapingo, Mexico, [2]Universidad Autónoma de Chihuahua, Chihuahua, Mexico*

752 **Monoallelic Expression of NNAT Gene in Nelore Steers Skeletal Muscle.**
*M. M. Souza[*1], A. Zerlotini[2], P. C. Tizioto[1], P. S. N. Oliveira[1], A. L. Somavilla[3], F. B. Mokry[4], A. S. M. Cesar[5], W. J. S. Diniz[1], M. A. Mudadu[6], S. C. M. Niciura[7], L. L. Coutinho[8] and L. C. A. Regitano[6], [1]Federal University of São Carlos, São Carlos, Brazil, [2]Embrapa Agricultural Informatics, Campinas, Brazil, [3]Universidade Estadual Paulista "Júlio de Mesquita Filho", Jaboticabal, Brazil, [4]Universidade Federal de São Carlos, São Carlos, Brazil, [5]University of Sao Paulo, Piracicaba, Brazil, [6]Embrapa Pecuária Sudeste, São Carlos, Brazil, [7]Embrapa Southeast Livestock, São Carlos, Brazil, [8]Universidade de São Paulo/Esalq, Piracicaba, Brazil*

753 **Estimation of Linkage Disequilibrium, Persistence of Phase and Effective Population Size of Brazilian Hereford and Braford Breeds.**
*P. Biegelmeyer[1], M. M. Oliveira[2,3], L. L. Cardoso[*2,3], C. G. Gomes[2], R. H. Higa[4], N. L. Dionello[1], A. R. Caetano[5], J. P. Steibel[6] and F. F. Cardoso[2], [1]Federal University of Pelotas, Pelotas, Brazil, [2]Embrapa Southern Region Animal Husbandry, Bage, Brazil, [3]Coordination for the Improvement of Higher Level Personnel (CAPES/PNPD), Brasilia, Brazil, [4]Embrapa Informática Agropecuária, Campinas, Brazil, [5]Embrapa Genetic Resources and Biotecnology, Brasilia, Brazil, [6]Michigan State University, East Lansing*

754 **Heritability Estimates of Calving Date in Nellore Cattle.**
*J. A. Silva[*1], W. B. Andrade[2], A. M. Maiorano[2], R. A. Curi[1], L. A. L. Chardulo[1], L. G. Albuquerque[3], G. Moraes[4] and L. F. Souza[4], [1]Universidade Estadual Paulista, Botucatu, Brazil, [2]Universidade Estadual Paulista, Jaboticabal, Brazil, [3]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil, [4]Qualitas Agronegócios, Goiania, Brazil*

755 **Adequacy of Different Pseudo-Phenotypes for Model Training and Validation of Genomic Predictions in Beef Cattle.**
*H. H. R. Neves[*1], R. Carvalheiro[2] and S. A. Queiroz[3], [1]GenSys Associated Consultants, Porto Alegre, Brazil, [2]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil, [3]Universidade Estadual Paulista, Jaboticabal, Brazil*

756 **Evaluation of the Protein Change in the Meat of Nellore Beef Cattle with Contrasting Shear Force.**
*M. E. Carvalho[*1], G. Gasparin[2], J. P. Eler[3], J. C. D. C. Balieiro[4], L. C. A. Regitano[5], J. B. S. Ferraz[3] and L. L. Coutinho[6], [1]NAP-GMABT - Dep. of Veterinary Medicine, University of Sao Paulo - FZEA, Pirassununga, Brazil, [2]Department of Animal Science, University of São Paulo/ESALQ, Piracicaba, Brazil, [3]NAP-GMABT/FZEA/University of Sao Paulo, Pirassununga, Brazil, [4]University of São Paulo- USP/FMVZ, Pirassununga, Brazil, [5]Embrapa Pecuária Sudeste, São Carlos, Brazil, [6]Universidade de São Paulo/Esalq, Piracicaba, Brazil*

Posters: Prediction using Molecular Information (Group 3)
Chair: Dorian J. Garrick, Iowa State University, Roel F. Veerkamp, Wageningen University, and Esa A. Mäntysaari, MTT Agrifood Research Finland

Presentation Time: 3:00 PM – 3:30 PM

484 **Inbreeding by Pedigree and Genomic Markers in Selection Lines of Pigs.**
*Y. Zhang[*1,2], J. M. Young[1], C. Wang[1], X. Sun[1], A. Wolc[1] and J. C. M. Dekkers[1], [1]Iowa State University, Ames, [2]China Agricultural University, Beijing, China*

485 **Approximation of Reliability of Direct Genomic Breeding Values.**
*M. Sargolzaei[*1,2], L. R. Schaeffer[2], J. P. Chesnais[1], G. Kistemaker[3], G. R. Wiggans[4] and F. S. Schenkel[2], [1]The Semex Alliance, Guelph, ON, Canada, [2]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [3]Canadain Dairy Network, Guelph, ON, Canada, [4]Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD*

486 **A Novel use of High Density SNP Assays to Optimize Choice of Different Crossbred Dairy Cattle Genotypes in Small-Holder Systems in East Africa.**
*J. M. Ojango[*1], A. G. Marete[1], F. D. N. Mujibi[1], J. Rao[1], J. Poole[1], E. O. Rege[2], S. Weerasinghe[3], C. Gondro[3], J. Gibson[3] and O. Mwai[1], [1]International Livestock Research Institute, Nairobi, Kenya, [2]PICO- Eastern Africa, Nairobi, Kenya, [3]University of New England, Armidale, Australia*

487 **Single Nucleotide Polymorphism in Dairy Cattle Populations of West Siberia.**
V. L. Petukhov[*], Novosibirsk State Agrarian University, Novosibirsk, Russia

488 **Do Rare Variants Contribute to the Genomic Prediction Accuracy?**
*T. Suchocki[*1], J. Szyda[2] and A. Zarnecki[3], [1]Wroclaw University of Environmental and Life Sciences, Wroclaw, Poland, [2]National Research Institute of Animal Production, Cracow-Balice, Poland, [3]National Research Institute of Animal Production, Cracow, Poland*

489 **Comparative Study of 13 Candidate Genes Applying Multi-reference Normalization to Detect the Expression of Different Fineness in Skin Tissues of Wool Sheep.**
*Y. Tian[1], X. Huang[1], J. Di[2], K. Tian[*2], W. Wu[2], X. Xu[2], Y. Zhang[2] and H. Tulafu[2], [1]College of Animal Science, Xinjiang Agricultural University, Urumqi, China, [2]Xinjiang Academy of Animal Science, Urumqi, China*

490 **Across Breed Qtl Detection And Genomic Prediction In French And Danish Dairy Cattle Breeds.**
*I. van den Berg[*1,2,3], B. Guldbrandtsen[1], C. Hoze[2,4], R. F. Brøndum[1], D. Boichard[2] and M. S. Lund[1], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]INRA, UMR1313 GABI, Jouy-en-Josas, France, [3]AgroParisTech, UMR1313 GABI, Paris, France, [4]UNCEIA, Paris, France*

491 **Development of Low Density Genotype Panels for Dairy and Beef Cattle.**
*M. M. Judge[*1], F. Kearney[2], M. C. McClure[3] and D. P. Berry[4], [1]Teagasc, Moorepark, Co. Cork, Ireland, [2]Irish Cattle Breeding Federation, Cork, Ireland, [3]Irish Cattle Breeding Federation, Bandon, Ireland, [4]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland*

492 **Accuracy of Genomic Prediction in Simulated Pig Populations.**
*J. Son[*1], H. Kang[1], J. Kim[1], J. E. Park[1,2] and D. Lee[1], [1]Hankyong National University, Anseong, South Korea, [2]Seoul National University, Seoul, South Korea*

493 **Efficiency of Including Cows in Genomic Prediction Versus Multivariate Models for Fertility Traits in Dairy Cattle in the United Kingdom.**
*R. Mrode[*1] and M. P. Coffey[2], [1]Scotland's Rural College, Edinburgh, United Kingdom, [2]SRUC, Edinburgh, United Kingdom*

494 **Implementation of the French Official Genomic Evaluation in Brown Swiss Dairy Cattle.**
*A. Baur[*1,2], S. Fritz[1,2], J. Promp[1,3], O. Bulot[4], D. Boichard[1], V. Ducrocq[1] and P. Croiseau[1], [1]INRA, UMR1313 GABI, Jouy-en-Josas, France, [2]UNCEIA, Paris, France, [3]IDELE, Jouy en Josas, France, [4]BGS, Paris, France*

495 **Combining SNPs in Latent Variables to Improve Genomic Prediction.**
H. C. Heuven[*], University of Utrecht, Utrecht, Netherlands

496 **Potential Application of Genomics to Reduce Boar Taint Levels in Three Canadian Swine Breeds.**
*J. Squires[*1], M. Jafarikia[1,2], F. S. Schenkel[1], S. Wyss[2], F. Fortin[3], R. de Wolde[4], W. Van Berkel[5] and B. Sullivan[2], [1]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [2]Canadian Centre for Swine Improvement,*

Ottawa, ON, Canada, [3]Centre de développement du porc du Québec, Québec, QC, Canada, [4]Ontario Swine Improvement, Innerkip, ON, Canada, [5]Western Swine Testing Association, Lacombe, AB, Canada

497 **Bovine Spastic Paresis: A Genome-Wide Study in Fleckvieh.**
*H. Schwarzenbacher[*1] and H. Pausch[2], [1]ZuchtData EDV-Dienstleistungen GmbH, Vienna, Austria, [2]Chair of Animal Breeding, Technische Universitaet Muenchen, Freising, Germany*

498 **Reference Population for South African Bonsmara Cattle.**
*H. E. Theron[*1,2], R. R. van der Westhuizen[1,2], E. van Marle-Koster[2] and J. van der Westhuizen[1,2], [1]SA Stud Book, Bloemfontein, South Africa, [2]University of Pretoria, Pretoria, South Africa*

499 **A General Approach for Calculation of Genomic Relationship Matrices for Epistatic Effects.**
*L. Varona[*1], Z. G. Vitezica[2], S. Munilla[1] and A. Legarra[3], [1]Universidad de Zaragoza, Zaragoza, Spain, [2]Unite Mixte ENSAT-INRA, Toulouse, France, [3]INRA, UMR 1388 GenPhySE, Castanet-Tolosan, France*

Posters: Beef Cattle Breeding (Group 4)
Chair: Stephen P. Miller, AgResearch, David Johnston, AUniversity of New England and Roberto Carvalheiro, Sao Paulo State University (UNESP)

Presentation Time: 3:30 PM – 4:00 PM

757 **Genome Wide Association Study between Copy Number Variation Regions with Marbling Score in Nelore cattle.**
*F. Baldi[*1], F. Feitosa[2], A. S. C. Pereira[3], G. C. Venturini[4], R. L. Tonussi[4], R. Espigolan[4], D. G. M. Gordo[4], G. M. de Camargo[5], L. A. L. Chardulo[6] and L. G. Albuquerque[5], [1]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil, [2]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, São Paulo, Brazil, Jaboticabal, Brazil, Jaboticabal, Brazil, [3]State University of São Paulo, Jaboticabal, Brazil, [4]Sao Paulo State University (UNESP), Jaboticabal, Brazil, [5]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil, [6]Sao Paulo State University (UNESP), Botucatu, Brazil*

758 **Alternatives Triple Crosses for Intensified Production Systems Beef Cattle in Brazil.**
*F. J. Gomes[*1], R. A. A. Torres Júnior[2], G. R. D. O. Menezes[2], J. V. F. Battistelli[3], T. F. Rocha[4], M. R. Reggiori[4] and M. E. Buzanskas[5], [1]Universidade Estadual Paulista Júlio de Mesquita, Faculdade de Ciências Agrárias e Veterinárias, Departamento de Ciências Exatas, Jaboticabal, Brazil, [2]Embrapa Gado de Corte, Campo Grande, Brazil, [3]Geneplus - Embrapa Gado de Corte, Campo Grande, Brazil, [4]Universidade Federal do Mato Grosso de Sul, Campo Grande, Brazil, [5]Universidade Estadual Paulista Júlio de Mesquita, Faculdade de Ciências Agrárias e Veterinárias, Departamento de Ciências Exatas, Jaboticabal-SP, Brazil*

759 **Estimates of Genetic Parameters for Weights between 60 and 600 Days of Age for Brahman Cattle using Random Regression Models.**
*T. Bertipaglia[*1], L. O. Duitama Carreño[1], R. R. Aspilcueta Borquis[2], A. A. Boligon[3], R. da Fonseca[4], M. M. Farah[5], G. C. Venturini[6] and F. Baldi[7], [1]São Paulo State University "Júlio de Mesquita Filho", Jaboticabal, Brazil, [2]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil, [3]Federal University of Pelotas, Pelotas, Brazil, [4]São Paulo State University "Júlio de Mesquita Filho", Dracena, Brazil, [5]1Department of Animal Science, São Paulo State Univ. (UNESP), Jaboticabal, São Paulo, Brazil, Jaboticabal, Brazil, [6]Sao Paulo State University (UNESP), Jaboticabal, Brazil, [7]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil*

760 **Genetic Parameters for Cow Weight in Pasture Fed Hereford Cattle.**
O. Ravagnolo[*], Instituto Nacional de Investigación Agropecuaria, Canelones, Uruguay

761 **Accuracy of Genomic Selection for Growth Traits in Nellore Cattle.**
A. P. Nascimento Terakado[*], Universidade Estadual de Sao Paulo, Jaboticabal, Brazil

762 **Racial Composition of Composite Bovine for Mating with Different Female Genetic Groups.**
*R. S. Bueno[*1], G. B. Mourao[2], E. C. Mattos[3], J. C. D. C. Balieiro[4], J. P. Eler[3] and J. B. S. Ferraz[3], [1]University of Sao Paulo/FZEA, Pirassununga, Brazil, [2]Department of Animal Science, University of São Paulo/ESALQ, Piracicaba, Brazil, [3]NAP-GMABT/FZEA/University of Sao Paulo, Pirassununga, Brazil, [4]University of São Paulo- USP/FMVZ, Pirassununga, Brazil*

763 **Genetic Analysis of Growth Traits in Polled Nellore Cattle from Tropical Region.**
*M. M. S. Mamede[*1], R. D. Sainz[2], C. Ulhôa Magnabosco[3], M. Correa da Silva[4], R. B. Lôbo[5], F. Nakagawa[6] and F. B. Lopes[3], [1]Federal University of Goiás, Goiânia, Brazil, [2]University of California, Davis, [3]Embrapa Cerrados, Brasília, Brazil, [4]Federal University of Goiás, Goiania, Brazil, [5]ANCP-Brazilian Society of Breeders and Researchers, Ribeirão Preto, Brazil, [6]OB Brand, Pontes e Lacerda, Brazil*

764 **Genetic Correlations Estimate between Meat Tenderness, Growth and Carcass Traits in a Population of Polled Nellore Cattle in Brazil.**
*L. Mendes de Castro[1], C. Ulhôa Magnabosco[*2], R. D. Sainz[3,4], C. Ubirajara Faria[5], R. B. Lôbo[6], F. Nakagawa[7] and F. B. Lopes[2], [1]Federal University of Goiás, Goiânia, Brazil, [2]Embrapa Cerrados, Brasília, Brazil, [3]University of California, Davis, [4]Embrapa-Brazilian Agricultural Research Corporation, Brasília, Brazil, [5]Federal University of Uberlândia, Uberlândia, Brazil, [6]ANCP-Brazilian Society of Breeders and Researchers, Ribeirão Preto, Brazil, [7]OB Brand, Pontes e Lacerda, Brazil*

765 **Genomic analysis of Canadian Simmental Population.**
*N. Zare[*1], G. VanderVoort[1], M. Sargolzaei[2], D. Lu[3] and S. P. Miller[4], [1]University of Guelph, Guelph, ON, Canada, [2]The Semex Alliance, Guelph, ON, Canada, [3]University of Alberta, Edmonton, AB, Canada, [4]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada*

766 **Effect of Genetics Level of Beef Cow Milk Production on Longevity in Diverse Environments.**
*M. M. Culbertson[*1], S. E. Speidel[1], M. G. Thomas[1], L. Keenan[2] and R. M. Enns[1], [1]Colorado State University, Department of Animal Sciences, Fort Collins, [2]Red Angus Association of America, Denton, TX*

767 **Single Nucleotide Polymorphisms in the DRD2 and XKR4 Genes may be Beneficial to Missouri Beef Cattle Grazing Endophyte-Infected Tall Fescue.**
*K. M. Ely[*1], A. M. Saxton[1], R. L. Kallenbach[2], R. Lock[2] and C. J. Kojima[1], [1]University of Tennessee, Knoxville, [2]University of Missouri, Columbia*

768 **Meat Tenderness could be Associated with Fatty Acids Metabolism in Nellore Cattle.**
T. M. Gonçalves[*], Escola Superior de Agricultura Luiz de Queiroz, ESALQ-USP, Piracicaba, Brazil

769 **Genetic Correlation between Live Body Measurements and Loin Production in Hanwoo Steers.**
Y. H. Choy[*], NIAS, Chonan, South Korea

770 **Relationship between Beef Heifer Residual Feed Intake and Productivity as Cows.**
C. D. Callum[*], University of Manitoba, Winnipeg, MB, Canada

771 **Genotype-Environment Interaction for Growth and Reproductive Traits in Nellore Cattle, using Reaction Norms.**
H. L. J. Chiaia[*], M. V. A. Lemos, C. Aboujaoude, R. Carvalheiro, L. G. de Albuquerque, H. N. Oliveira and F. Baldi, Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil

Posters: Prediction using Molecular Information (Group 4)
Chair: Dorian J. Garrick, Iowa State University, Roel F. Veerkamp, Wageningen University, and Esa A. Mäntysaari, MTT Agrifood Research Finland

Presentation Time: 3:30 PM – 4:00 PM

500 **Prioritizing Cows for Genotyping in Genomic Selection.**
T. Luan[*], X. Yu and T. H. E. Meuwissen, Norwegian University of Life Sciences, Ås, Norway

501 **Evaluation of the Use of a Meta-Population for Genomic Selection in Spanish Beef Cattle Breeds.**
*E. F. Mouresan[*1], S. Munilla[1,2], C. J. Díaz[3], A. González-Rodríguez[1], J. Piedrafita[4], C. Aviles[5], J. A. Baró[6], C. Moreno[1] and L. Varona[1], [1]Universidad de Zaragoza, Zaragoza, Spain, [2]Universidad de Buenos Aires, Buenos Aires, Argentina, [3]INIA, Madrid, Spain, [4]Universitat Autònoma de Barcelona, Bellaterra (Barcelona), Spain, [5]Universidad de Córdoba, Cordoba, Spain, [6]Universidad de Valladolid, Palencia, Spain*

502 **Linkage Disequilibrium and Persistence of Phase in Five Spanish Local Beef Cattle Breeds.**
*J. J. Cañas-Álvarez[1], E. F. Mouresan[2], L. Varona[2], C. J. Díaz[3], C. Aviles[4], J. A. Baró[5], J. Altarriba[2], J. Casellas[1] and J. Piedrafita[*1], [1]Universitat Autònoma de Barcelona, Bellaterra (Barcelona), Spain, [2]Universidad de Zaragoza, Zaragoza, Spain, [3]INIA, Madrid, Spain, [4]Universidad de Córdoba, Cordoba, Spain, [5]Universidad de Valladolid, Palencia, Spain*

503 **Generalization of Henderson's T-inverse to Include Genomic Data.**
A. A. Maiwashe[*], ARC-Animal Production Institute, Irene, South Africa; University of the Free State, Bloemfontein, South Africa

504 **Genome-Assisted Multiple-Trait Analysis of Carcass Traits in Nellore Cattle.**
*G. A. Fernandes Júnior[*1], G. J. M. Rosa[2], R. B. Costa[1], R. Carvalheiro[1], L. A. L. Chardulo[3], D. G. M. Gordo[1], F. Baldi[4], H. N. Oliveira[4], H. Tonhati[5], L. G. Albuquerque[5] and R. M. O. Silva[1], [1]Sao Paulo State University (UNESP), Jaboticabal, Brazil, [2]University of Wisconsin, Madison, [3]Universidade Estadual Paulista, Botucatu, Brazil, [4]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil, [5]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil*

505 **Evaluating the Effects of QTN for Milk Fat Yield and their Impact on Accuracy and Bias of Genomic Prediction in New Zealand Holstein-Friesian Cows.**
*M. K. Hayr[*1], M. Saatchi[1], R. Sherlock[2], D. Johnson[2] and D. J. Garrick[1], [1]Iowa State University, Ames, [2]LIC, Hamilton, New Zealand*

506 **Genomics Tools for Improving Health and Production Performance of Canadian Pigs.**
*M. Jafarikia[*1,2] and B. Sullivan[2], [1]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [2]Canadian Centre for Swine Improvement, Ottawa, ON, Canada*

507 **Comparison of Breeding Values from Single-Step and Bivariate Blending Methods.**
*M. Taskinen[*1], E. A. Mäntysaari[1], G. P. Aamand[2] and I. Strandén[3], [1]MTT Agrifood Research Finland, Jokioinen, Finland, [2]Nordic Cattle Genetic Evaluation, Aarhus, Denmark, [3]MTT Agrifood Research Finland, Biotechnology and Food Research, Jokioinen, Finland*

508 **Implementation of Genomic Selection in Norsvin Genetic Program; Genetic Gain in Production and Maternal Traits in Norsvin Landrace.**
*I. Andersen-Ranberg[*1] and E. Grindflek[2], [1]Norsvin, Aas, Norway, [2]Norsvin, Hamar, Norway*

509 **Use of Genomic Recursions and Algorithm for Proven and Young Animals for Single-Step Genomic BLUP Analyses with a Large Number of Genotypes.**
*B. D. Fragomeni[*1], I. Misztal[1], D. Lourenco[1], S. Tsuruta[1], Y. Masuda[1,2] and T. J. Lawlor[3], [1]University of Georgia, Athens, [2]Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Japan, [3]Holstein Association USA Inc., Brattleboro, VT*

510 **Use of Field Data in Genomic Reference Populations for Pig Breeding.**
*M. Lillehammer[*1], T. H. E. Meuwissen[2] and A. K. Sonesson[3], [1]Nofima As, Ås, Norway, [2]Norwegian University of Life Sciences, Ås, Norway, [3]NOFIMA, Ås, Norway*

511 **Different Strategies for Genomic Prediction of Average Daily Weight Gain in Feedlot in Nellore Finishing Steers.**
*A. L. Somavilla[*1], L. C. A. Regitano[2], F. B. Mokry[3], M. A. Mudadu[2], R. R. Tullio[2], M. L. Nascimento[4], L. L. Coutinho[4] and D. P. Munari[1], [1]Universidade Estadual Paulista "Júlio de Mesquita Filho", Jaboticabal, Brazil, [2]Embrapa Pecuária Sudeste, São Carlos, Brazil, [3]Universidade Federal de São Carlos, São Carlos, Brazil, [4]Universidade de São Paulo/Esalq, Piracicaba, Brazil*

512 **Association Of A Bovine Chromosome 19 Region, 51 Mb, With The Variation Of Oleic Acid In Hanwoo.**
J. Kim[*], Yeungnam University, Gyeongsan, South Korea

513 **Accuracy of Molecular Breeding Values for Production and Efficiency Traits of Canadian Crossbred Beef Cattle using a Cross-Validation Approach.**
*E. C. Akanno[*1], G. Plastow[1], C. Li[1,2], S. P. Miller[1,3] and J. A. Basarab[4], [1]University of Alberta, Edmonton, AB, Canada, [2]Agriculture and Agri-Food Canada, Edmonton, AB, Canada, [3]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [4]Alberta Agriculture and Rural Development, Lacombe, AB, Canada*

514 **Flexibility of Bayesian LASSO under Different Genetic Structure.**
L. O. Duitama[*], UNESP, Jaboticabal, Brazil

515 **SNP Analysis of the Growth Hormone Gene in Indigenous Philippine Cattle, Ilocos Genetic Group by PCR-RFLP.**
*A. J. Salces[*1], P. J. C. Icalia[1,2], M. S. Mendioro[1] and C. C. Sevilla[1], [1]University of the Philippines Los Baños, Calamba, Philippines, [2]Mariano Marcos State University, Batac, Philippines*

Tuesday, August 19, 2014

Posters: Dairy Cattle Breeding (Group 1)
Chair: Kent A. Weigel, University of Wisconsin, Hermann Swalve, Martin Luther University Halle-Wittenberg, and Christian Maltecca, North Carolina State University

Presentation Time: 9:30 AM – 10:00 AM

799 **Performance of Different Genetic Group of Cows Under Bangladesh Condition.**
M. A. S. Khan[*], M. S. R. Siddiki and M. E. Uddin, Bangladesh Agricultural University, Mymensingh, Mymensingh, Bangladesh

800 **Estimation of Genetic Parameters and Trends for Milk Production in a Libyan Holstein Population under Arid Mediterranean Subtropical Conditions.**
*S. A. Hermas[*1] and M. A. Elzo[2], [1]University of Tripoli, Tripoli, Libya, [2]Department of Animal Sciences, University of Florida, Gainesville*

801 **Genome-Wide Association Study For Milk And Protein Yields In Portuguese Holstein Cattle.**
J. G. V. Carvalheira[*], ICBAS – University of Porto, Porto, Portugal; Research Center in Biodiversity and Genetic Resources (CIBIO) - InBIO, Porto, Portugal

802 **Genome-Wide Association Study For Milk-Fat Yield In Portuguese Holstein Cattle.**
M. M. I. Salem[*], Dep. of Animal Production, Fac. of Agriculture, Alexandria University, Alexandria, Egypt; Research Center in Biodiversity and Genetic Resources (CIBIO) - InBIO, Porto, Portugal

803 **Including Cow Information in Genomic Prediction of Holstein Dairy Cattle in the US.**
*T. A. Cooper[*1], G. R. Wiggans[1] and P. M. VanRaden[2], [1]Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD, [2]USDA-ARS-AIPL, Beltsville, MD*

804 **Estimates of Genetic Parameters for Economic Traits in Dairy Buffalo.**
*C. D. C. Barros[*1], D. P. de Oliveira[2], N. A. Hurtado Lugo[1], R. R. Aspilcueta Borquis[3] and H. Tonhati[3], [1]Universidade Estadual Paulista "Júlio de Mesquista Filho" (FCAV-UNESP), Jaboticabal, Brazil, [2]Departamento de Zootecnia, Faculdade de Ciências Agrárias e Veterinárias (FCAV), Universidade Estadual Paulista "Júlio de Mesquista Filho" (UNESP), Jaboticabal, Brazil, [3]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil*

805 **Genome Wide Association Study on Cow Mortality in Three US Regions.**
*S. Tsuruta[*1], I. Misztal[1], I. Aguilar[2] and T. J. Lawlor[3], [1]University of Georgia, Athens, [2]INIA, Las Brujas, Uruguay, [3]Holstein Association USA Inc., Brattleboro, VT*

806 **Genetic Analysis of Reproductive Traits, Milk Yield, and Persistency during the First 3 Lactations of Holstein cows.**
*T. Yamazaki[*1], K. Hagiya[1], H. Takeda[2], S. Yamaguchi[3], T. Osawa[4] and Y. Nagamine[5], [1]NARO Hokkaido Agricultural Research Center, Sapporo, Hokkaido, Japan, [2]NARO Institute of Livestock and Grassland Science, Tsukuba, Japan, [3]Livestock Improvement Association of Japan, Tokyo, Japan, [4]National Livestock Breeding Center, Fukushima, Japan, [5]Nihon University, Fujisawa, Japan*

807 **Comparsion between Sire and Animal Model to Estimate Genetic (Co)variances for Milk Yield Traits.**
*H. G. El- Awady[1], E. A. Badr[2], A. S. Khattab[*3] and S. Z. Oudah[4], [1]Kaferl - El Sheihk , Faculty of Agric., Animal Production Department, Kafer El Sheikh, Egypt, [2]Animal Production Research Instutute, Cairo, Egypt, [3]Tanta University, Faculty of Agriculture, Animal Production Department, Tanta, Egypt, [4]Mansoura University, Faculty of Agriculture, Animal Production Department, Mansoura, Egypt*

808 **Genetic Parameters of Test Day Records in Brazilian Holstein Cattle using an Autoregressive Multiple Lactation Animal Model.**
*C. N. Costa[*1], G. G. Santos[1], J. A. Cobuci[2], G. Thompson[3,4] and J. G. V. Carvalheira[3,4], [1]Embrapa Dairy Cattle, Juiz de Fora,*

Brazil, [2]Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil, [3]Research Center in Biodiversity and Genetic Resources (CIBIO) - InBIO, Porto, Portugal, [4]ICBAS – University of Porto, Porto, Portugal

809 **Effects of Four Gene Polymorphisms related to Fertility on Milk Production and Calving Ability in Japanese Holsteins.**
*T. Kawahara[*1], Y. Gotoh[1], M. Sugimoto[2], T. Baba[1], S. Yamaguchi[3], M. Suzuki[4] and Y. Sugimoto[5], [1]Holstein Cattle Association of Japan, Hokkaido Branch, Sapporo, Hokkaido, Japan, [2]National Livestock Breeding Center, Odakura, Nishigo, Fukushima, Japan, [3]Hokkaido Dairy Milk Recording and Testing Association, Sapporo, Hokkaido, Japan, [4]Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Hokkaido, Japan, [5]Shirakawa Institute of Animal Genetics, Odakura, Nishigo, Fukushima, Japan*

810 **Industry Application of Genomic Predictions in The Netherlands.**
*M. Stoop[*1], E. Mullaart[1] and G. de Jong[2], [1]CRV BV, Arnhem, Netherlands, [2]CRV, Arnhem, Netherlands*

811 **Genetic Parameters for Somatic Cell Count and Clinical Mastitis in the First Lactation of Iranian Holstein Cattle.**
*S. Zakizadeh[*1] and M. Jafari[2], [1]Institute Of Scientific-Applied Higher Education of Jihad-e-Agriculture, Mashhad, Iran, [2]Animal breeding center of North-east, Mashhad, Iran*

812 **Productive and Reproductive Performance of Crossbred cows of North American Holstein, New Zealand Friesian, New Zealand Jersey or Swedish Red-and-White Sires and Uruguayan Holstein Dams in a Seasonal-calving, Predominantly Pasture-based System.**
*D. Laborde[*1], J. E. Dutour[2], N. Lopez-Villalobos[3], P. Chilibroste[4] and A. Meikle[5], [1]Productor, Trinidad, Uruguay, [2]Consultor privado, Paysandu, Uruguay, [3]Massey University, Palmerston North, New Zealand, [4]Universidad de la República, Montevideo, Uruguay, [5]Facultad de Veterinaria, Universidad de la Republica, Montevideo, Uruguay*

813 **Genetic Relationships between Herd Life and Type Traits of Holstein Cattle in Japan using Random Regression Test-day Models.**
*O. Sasaki[*1], M. Aihara[2], A. Nishiura[1], H. Takeda[1] and M. Satoh[1], [1]NARO Institute of Livestock and Grassland Science, Tsukuba, Japan, [2]Livestock Improvement Association of Japan, Inc., Tokyo, Japan*

Posters: Sheep and Goats Breeding (Group 1)
Chair: Julius H.J. van der Werf CRC for Sheep Industry Innovation and John C McEwan, AgResearch

Presentation Time: 9:30 AM – 10:00 AM

869 **Characterization of Indigenous Fat-Tailed Sheeps in Iran: Diversity in Blood Proteins.**
H. Mohammadi[*], University of Tabriz, Tabriz, Iran

870 **Phylogenetic Relationships Among Two Nigerian Goat Breeds and Kalahari Red Goat of South Africa.**
M. N. Bemji[*], E. O. Awotunde, O. Olowofeso and A. O. Adebambo, Federal University of Agriculture, Abeokuta, Nigeria

871 **Genetic Structure and Phylogeny of Three Goat Populations in the Middle East.**
*R. S. Aljumaah[*1], M. A. Alshaikh[2] and R. M. Al-Atiyat[1], [1]King Saud University, Riyadh, Saudi Arabia, [2]King Saud university, Riyadh, Saudi Arabia*

872 **Economic Evaluation of Genomic Selection in Small Ruminants: A Case of French Sheep Meat Breeding Program.**
*J. M. Elsen[*1], F. Shumbusho[2], J. Raoul[3], J. M. Astruc[4], I. Palhière[2], S. Lemarié[5] and A. Fugeray-Scarbel[5], [1]INRA, Castanet tolosan, France, [2]INRA, UMR 1388 GenPhySE, Castanet-Tolosan, France, [3]Idele, Castanet tolosan, France, [4]idele, Castanet tolosan, France, [5]INRA, grenoble, France*

873 **Genetic Distances and Phylogenetic Trees of Different Awassi Sheep Populations Based on DNA Sequencing.**
R. M. Al-Atiyat[*], King Saud University, Riyadh, Saudi Arabia

874 **CSN1S1 Variants are Highly Associated with Milk Performance Traits in Lacaune Sheep.**
G. Erhardt[*], Department of Animal Breeding and Genetics, Giessen, Germany

875 **Development of a Genetic Evaluation in Austrian Dairy Sheep.**
*B. Fuerst-Waltl[*1] and C. Fuerst[2], [1]University of Natural Resources and Life Sciences (BOKU), Vienna, Austria, [2]ZuchtData EDV-Dienstleistungen GmbH, Vienna, Austria*

876 **Signatures of Selection for Age at First Lambing in Brazilian Local Adapted Sheep.**
*A. M. B. O. Lobo[*1], S. R. Paiva[2] and R. N. B. Lobo[3], [1]Embrapa Goats and Sheep, Sobral, Brazil, [2]Embrapa Secretariat of International Affairs, Brasilia, Brazil, [3]Federal University of Ceará, Fortaleza, Brazil*

877 **QTL Affecting Skin Traits on CHI19 in an Angora x Creole Goat Backcross Population.**
M. Poli[*], Instituto de Genética CICVyA-INTA, Buenos Aires, Argentina

878 **Genome-Wide Association Identifies Genomic Regions Associated with Entropion in Domestic Sheep.**
*M. R. Mousel[*1], S. N. White[1,2], J. O. Reynolds[1] and D. P. Knowles[1,2], [1]USDA, ARS, Animal Disease Research Unit, Pullman, WA, [2]Washington State University, Pullman*

879 **Diallel Cross between Texel and Corriedale: Lamb Growth and Survival.**
*G. Ciappesoni[*1], G. Banchero[2] and A. Vázquez[2], [1]INIA, Rincón del Colorado, Uruguay, [2]INIA, Colonia, Uruguay*

880 **Computer Intensive Calculation of Reliability of Predicted Breeding Values with Animal Model, as a Means for Decision Making in Practical Breeding Schemes.**
*S. Andonov[1], G. Klemetsdal[*2] and T. Ådnøy[3], [1]Faculty of Agricultural Sciences and Food, Skopje, Macedonia, [2]Norwegian University of Life Sciences, Ås, Norway, [3]Norwegian University of Life Sciences, As, Norway*

881 **Impact Of The Hypermuscularity GDF8 Gene On Sheep Maternal Abilities Traits.**
*D. Francois[*1], D. Carpentier[2], Y. Bourdillon[3], D. Grasset[4], F. Tortereau[2] and J. Raoul[5], [1]INRA, Toulouse, France, [2]INRA, Toulouse, France, [3]INRA UE0322, La Sapinière, Bourges, France, [4]GID Lacaune, Lauras, France, [5]Idele, Castanet tolosan, France*

882 **Characterization of Linkage Disequilibrium and Consistency of Gametic Phase in Canadian Goats.**
*L. F. Brito[*1], M. Jafarikia[2], D. A. Grossi[1], L. Maignel[2], M. Sargolzaei[1,3] and F. S. Schenkel[1], [1]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [2]Canadian Centre for Swine Improvement, Ottawa, ON, Canada, [3]The Semex Alliance, Guelph, ON, Canada*

883 **Genetic Analysis of Wool Shedding Scores of Ewes from a Composite Flock using a Threshold Model and Bayesian Methodologies.**
*N. Vargas Jurado[*1], K. A. Leymaster[2], L. A. Kuehn[3] and R. M. Lewis[4], [1]Virginia Polytechnic Institute and State University, Blacksburg, [2]USDA, Meat Animal Research Center, Clay Center, NE, [3]USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, [4]University of Nebraska, Lincoln,*

884 **Does The Genetics Of Lamb Survival Differ Between Single And Twin Born Merino Lambs?**
*S. Hatcher[*1], K. D. Atkins[2] and S. Mortimer[3], [1]NSW DPI, Orange, Australia, [2]Shoal Bay, Australia, [3]NSW DPI, Trangie, Australia*

Posters: Dairy Cattle Breeding (Group 2)
Chair: Kent A. Weigel, University of Wisconsin, Hermann Swalve, Martin Luther University Halle-Wittenberg, and Christian Maltecca, North Carolina State University

Presentation Time: 10:00 AM – 10:30 AM

814 **Effects of Housing type × Feeding System on Milk Yield of Holstein Cows.**
*K. Hagiya[*1], S. Yamaguchi[2], K. Hayasaka[1], T. Yamazaki[1], T. Osawa[3], H. Abe[2], S. Nakagawa[2], T. Kawahara[4] and M. Suzuki[5], [1]NARO Hokkaido Agricultural Research Center, Sapporo, Hokkaido, Japan, [2]Hokkaido Dairy Milk Recording and Testing Association, Sapporo, Hokkaido, Japan, [3]National Livestock Breeding Center, Fukushima, Japan, [4]Holstein Cattle Association of Japan, Hokkaido Branch, Sapporo, Hokkaido, Japan, [5]Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Hokkaido, Japan*

815 **Genetic Analysis of Daily Maximum Milking Speed by a Random Walk Model in Dairy Cows.**
*B. Karacaören[*1], L. Janss[2] and H. N. Kadarmideen[3], [1]Section of Biometry and Genetics, Department of Animal Science, Akdeniz*

University, Antalya, Turkey, [2]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [3]Department of Clinical Veterinary and Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark

816 **Comparison of Natural Antibodies Measured in Milk and Blood Samples of Dutch Dairy Cattle.**
*B. de Klerk[*1], B. J. Ducro[1], H. C. Heuven[2], I. den Uyl[3], J. A. M. van Arendonk[1], H. K. Parmentier[4] and J. J. van der Poel[1], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]University of Utrecht, Utrecht, Netherlands, [3]Animal health Services, Deventer, Netherlands, [4]Adaptation Physiology Group, Wageningen University, Wageningen, Netherlands*

817 **Genetic Parameter Estimates and Cluster Analysis of Breeding Values for Milk Production in Guzerá Cattle.**
*L. El Faro[*1], D. A. C. Cruz[2], M. G. Campolina Diniz Peixoto[3], R. P. Savegnago[4], C. H. C. Machado[5] and F. A. T. Bruneli[3], [1]SAA/APTA/Instituto de Zootecnia-Centro de Bovinos de Corte, Sertãozinho-SP, Brazil, [2]Instituto de Zootecnia, Sertãozinho, Brazil, [3]Embrapa Dairy Cattle, Juiz de Fora, Brazil, [4]UNESP, Jaboticabal, Brazil, [5]ABCZ, Uberaba, Brazil*

818 **Genome-Wide Estimates of Effective Population Size in the Spanish Holstein Population.**
*S. T. Rodríguez-Ramilo[*1], J. Fernández[1], M. A. Toro[2], D. Hernández[3] and B. Villanueva[1], [1]INIA, Madrid, Spain, [2]ETS Ingenieros Agrónomos, Madrid, Spain, [3]CONAFE, Madrid, Spain*

819 **Estimates of Genetic Parameters for Test Day and 305-day Milk Yield in First Lactation of Mambí de Cuba Cows.**
A. Hernández[*], Institute of Animal Science, Mayabeque, Cuba

820 **Genetic Variation of Cheese Yield-Related Traits Predicted using Fourier-Transform Infrared Spectroscopy of Samples Collected during Milk Recording on Holstein, Brown Swiss and Simmental Cows.**
A. Cecchinato[*], University of Padova, Legnaro PD, Italy

821 **Genetic Evaluation of Milk Traits under Whole-Season Once-a-Day Milking.**
*K. Stachowicz[*1], G. Jenkins[1], P. Amer[1] and C. V. Phyn[2], [1]AbacusBio Limited, Dunedin, New Zealand, [2]DairyNZ, Hamilton, New Zealand*

822 **Genetic Analysis of Energy Balance in the First Three Lactations of Japanese Holsteins.**
*A. Nishiura[*1], O. Sasaki[1], M. Aihara[2], H. Takeda[1] and M. Satoh[1], [1]NARO Institute of Livestock and Grassland Science, Tsukuba, Japan, [2]Livestock Improvement Association of Japan, Inc., Tokyo, Japan*

823 **Claw Lesions and Risk Factors in Spanish Dairy Cows.**
*M. Pérez-Cabal[*1] and N. Charfeddine[2], [1]University Complutense of Madrid, Madrid, Spain, [2]CONAFE, Madrid, Spain*

824 **New Simulation Method to Create Data Sets With a Desired Genetic Trend.**
*A. M. Tyrisevä[*1], M. H. Lidauer[1], G. P. Aamand[2] and E. A. Mäntysaari[1], [1]MTT Agrifood Research Finland, Jokioinen, Finland, [2]Nordic Cattle Genetic Evaluation, Aarhus, Denmark*

825 **Genetic Parameters for Rank of Dairy Gir Cattle in Agricultural Shows using Thurstonian Procedures.**
*M. P. M. Gama[*1], F. R. Araújo Neto[2], H. N. de Oliveira[3], A. R. Fernandes[4], A. E. Vercesi Filho[5], L. El Faro[5] and C. C. P. Paz[1,5], [1]Universidade de São Paulo, Faculdade de Medicina de Ribeirão Preto - Departamento de Genética (USP/FMRP), Ribeirão Preto-SP, Brazil, [2]Instituto Federal de Goiás, Rio Verde-GO, Brazil, [3]Sao Paulo State University (UNESP), Jaboticabal, Brazil, [4]Associação Brasileira de Criadores de Gir Leiteiro, Uberaba-MG, Brazil, [5]SAA/APTA/Instituto de Zootecnia-Centro de Bovinos de Corte, Sertãozinho-SP, Brazil*

826 **Descriptive Analysis of Copy Number Variation Regions in a Population of Dairy Gyr Cattle.**
*M. V. G. B. da Silva[*1], G. A. Oliveira Junior[2], F. S. B. Rey[3], P. F. Giachetto[4], M. A. Machado[1], R. D. S. Verneque[1] and J. B. S. Ferraz[2], [1]Embrapa Dairy Cattle, Juiz de Fora, Brazil, [2]NAP-GMABT/FZEA/University of Sao Paulo, Pirassununga, Brazil, [3]Sao Paulo State University (UNESP), Jaboticabal, Brazil, [4]Embrapa Agricultural Informatics, Campinas, Brazil*

827 **Application for Herd Total Production Forecast based on the Solutions from the National Test Day Evaluations.**
T. Pitkänen[*], E. A. Mäntysaari and M. H. Lidauer, MTT Agrifood Research Finland, Jokioinen, Finland

828 **Genetic Associations between Behavior Traits Recorded by Automatic Milking Systems and Temperament of Swedish Holsteins.**
E. Rinell[*], Norwegian University of Life Sciences, Ås, Norway

Posters: Sheep and Goats Breeding (Group 2)
Chair: Julius H.J. van der Werf CRC for Sheep Industry Innovation and John C McEwan, AgResearch

Presentation Time: 10:00 AM – 10:30 AM

885 **Preliminar Refined Localization of QTL for Fleece Traits in Five Goat Chromosomes using SNP Markers in a Backcross Population.**
H. Taddeo[*], EEA Bariloche- INTA, San Carlos de Bariloche, Argentina

886 **Genetic Improvement Of Sheep In Ireland.**
*T. Pabiou[*1], T. Byrne[2], E. Wall[3] and N. McHugh[4], [1]Irish Cattle Breeding Federation, Bandon, Ireland, [2]AbacusBio ltd, Dunedin, New Zealand, [3]SheepIreland, Bandon, Ireland, [4]Teagasc Moorepark, Fermoy, Ireland*

887 **Genetic Relationships among Reproduction and Objective and Subjective Wool and Conformation Traits Measured in a Fine Wool Merino Stud.**
W. Olivier[*], Grootfontein ADI, Middelburg, South Africa

888 **ASIP and MC1R Mutations Causing Black Coat Colour in Five Swedish Sheep Breeds.**
*C. M. Rochus[*1,2,3], S. Mikko[1], A. Näsholm[1] and A. M. Johansson[1], [1]Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden, [2]AgroParisTech, Paris, France, [3]GenPhySE, INRA, Castanet-Tolosan, France*

889 **Relationships of Faecal Worm Egg Count with Body Weight and Male Fertility In South African Merinos.**
*P. A. M. Matebesi-Ranthimo[*1,2], S. W. Cloete[3,4], J. B. van Wyk[2] and J. J. Olivier[3], [1]National University of Lesotho, Maseru, Lesotho, [2]University of the Free State, Bloemfontein, South Africa, [3]Directorate Animal Sciences, Elsenburg, South Africa, [4]Universikty of Stellenbosch, Elensburg, South Africa*

890 **Null Genetic Differentiation among Flocks Contributing to the Ripollesa Sheep Herdboob.**
*J. Casellas[*1], M. Fina[1], R. Bach[2] and J. Piedrafita[3], [1]Universitat Autònoma de Barcelona, Bellaterra, Spain, [2]ANCRI, Monells, Spain, [3]Universitat Autònoma de Barcelona, Bellaterra (Barcelona), Spain*

891 **Breech Strike Indicator Traits for Merino Sheep in Non-Seasonal Rainfall Environments.**
*T. L. Bird-Gardiner[*1,2,3], D. J. Brown[4], J. L. Smith[5], S. Mortimer[6] and G. Refshauge[7], [1]Cooperative Research Centre for Sheep Industry Innovation, Armidale, Australia, [2]University of New England, Armidale, Australia, [3]NSW Department of Primary Industries, Trangie, Australia, [4]Animal Genetics and Breeding Unit, UNE, Armidale, Australia, [5]CSIRO Animal, Food and Health Sciences, Armidale, Australia, [6]NSW DPI, Trangie, Australia, [7]NSW Department of Primary Industries, Cowra, Australia*

892 **Genetic Parameters and QTL Detection for Milking Speed in Dairy Alpine and Saanen Goats.**
*I. Palhière[*1], H. Larroque[1], C. Virginie[2], G. Tosser-Klopp[3] and R. Rachel[1], [1]INRA, UMR 1388 GenPhySE, Castanet-Tolosan, France, [2]Institut de l'Elevage, Castanet-Tolosan, France, [3]INRA, UMR1388 GenPhySE, Castanet-Tolosan, France*

893 **Genetic Parameters and Trends for Hogget Live Weight, Wrinkle Score and Scrotal Traits in Merino Lines Divergently Selected for the Ability of Ewes to rear Multiples.**
*J. B. van Wyk[*1], S. W. Cloete[2] and B. J. Olivier[2], [1]University of the Free State, Bloemfontein, South Africa, [2]Directorate Animal Sciences, Elsenburg, South Africa*

894 **Effects of Buck and Doe Size on the Growth Performance and Survival of their Progeny.**
*D. R. Kugonza[*1], M. F. Rothschild[2] and K. J. Stalder[3], [1]Department of Agricultural Production, College of Agricultural and Environmental Sciences (CAES), Makerere University, Kampala, Uganda, [2]Iowa State University, Ames, [3]Department of Animal Science, College of Agriculture and Life Sciences, Iowa State University, Ames*

895 **Relative Economic Value for Merino Sheep in South Africa.**
A. Van Graan[*], Agricultural Research Council, Middelburg, South Africa

896 **Genetics of Sheep Health Traits.**
*N. McHugh[*1], S. Potterton[2], E. Wall[3] and T. Pabiou[4], [1]Teagasc Moorepark, Fermoy, Ireland, [2]Sheep Ireland, Co. Cork, Ireland, [3]SheepIreland, Bandon, Ireland, [4]Irish Cattle Breeding Federation, Cork, Ireland*

897 **Genetic Association between Body Measurements and Weight in Santa Inês Sheep.**
*E. J. Oliveira[*1], L. El Faro[2], A. P. Freitas[2], F. F. Simili[2], A. E. Vercesi Filho[2], M. L. P. Lima[2], R. L. D. Costa[2] and C. C. P. Paz[1,2], [1]Universidade de São Paulo, Faculdade de Medicina de Ribeirão Preto - Departamento de Genética (USP/FMRP), Ribeirão Preto-SP, Brazil, [2]SAA/APTA/Instituto de Zootecnia-Centro de Bovinos de Corte, Sertãozinho-SP, Brazil*

898 **Genomic Breeding Schemes in French Lacaune and Manech Dairy Sheep: Design and Expected Genetic Gain.**
*D. Buisson[1,2,3], G. Lagriffoul[*4], G. Baloche[1], X. Aguerre[3], P. Boulenc[5], F. Fidelle[3], G. Fregeat[2], B. Giral-Viala[5], P. Guibert[6], P. Panis[6], C. Soulas[3], J. M. Astruc[4] and F. Barillet[1], [1]INRA, UMR 1388 GenPhySE, Castanet-Tolosan, France, [2]OS Upra Lacaune, Rodez, France, [3]CDEO, Ordiarp, France, [4]Idele, Toulouse, France, [5]Ovitest, Rodez, France, [6]Confédération Générale de Roquefort, Millau, France*

899 **Assessment of Genetic Variation for Resistance to Mastitis in Valle del Belice Dairy Sheep: A Survival Analysis Approach.**
*M. Tolone[*1], J. M. Yáñez[2], A. M. Sutera[1], L. M. Scatassa[3] and B. Portolano[1], [1]Università degli Studi di Palermo, Palermo, Italy, [2]University of Chile, Santiago, Chile, [3]IZS della Sicilia "A. Mirri", Palermo, Italy*

900 **Genetic Effects of αs1-casein Locus on Estimated Cheese Yields in Italian Alpine and Saanen Goats.**
S. Frattini[*], University of Milan - Department of Veterinary Science and Public Health, Milan, Italy

Posters: Dairy Cattle Breeding (Group 3)
Chair: Kent A. Weigel, University of Wisconsin, Hermann Swalve, Martin Luther University Halle-Wittenberg, and Christian Maltecca, North Carolina State University

Presentation Time: 3:00 PM – 3:30 PM

829 **Genetic Evaluations of Milkability in Norwegian Red Based on Data from Automatic Milking Systems.**
*B. Heringstad[*1,2] and H. K. Bugten[3], [1]Geno, Ås, Norway, [2]Norwegian University of Life Sciences, Ås, Norway, [3]Norwegian University of Life Sciences, Aas, Norway*

830 **Genome-Wide Association Study for 13 Udder Traits from Linear Type Classification in Cattle.**
C. Flury[*], Bern University of Applied Sciences, School of Agricultural, Forest and Food Sciences, Zollikofen, Switzerland

831 **Improving the Accuracy of Mid-Infrared Prediction Models by Selecting the Most Informative Wavelengths through Uninformative Variable Elimination.**
M. De Marchi[*], P. Gottardo, M. Cassandro and M. Penasa, Department of Agronomy, Food, Natural resources, Animals and Environment, University of Padova, Legnaro, Italy

832 **Trend Validation Procedures Applied by Interbull – A Historical Overview.**
V. Palucci[*] and J. W. Dürr, Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden

833 **Genetic Analysis of Milk Fat Globule and Casein Micelle Size in Canadian Holsteins.**
*A. Fleming[*1], A. Koeck[1], F. Miglior[2], M. Corredig[3], J. Chen[3], B. Mallard[4], A. Ali[5] and F. S. Schenkel[1], [1]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [2]Center for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [3]Dept Food Science, University of Guelph, Guelph, ON, Canada, [4]Dept of Pathobiology, OVC, University of Guelph, Guelph, ON, Canada, [5]Dept of Mathematics and Statistics, University of Guelph, Guelph, ON, Canada*

834 **Genetic Characterization of Two Populations of Murrah Buffaloes From Brazil and Cuba.**
S. B. P. Barbosa[*], Universidade Federal Rural de Pernambuco, Recife, Brazil

835 **Multivariate Outlier Detection in Genetic Evaluation in Nordic Jersey Cattle.**
*H. Gao[*1], P. Madsen[1], J. Pösö[2], J. Pedersen[3], M. H. Lidauer[4] and J. Jensen[1], [1]Center for Quantitative Genetics and Genomics,*

Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]FABA Co-op, Helsinki, Finland, [3]Knowledge Centre for Agriculture, Aarhus, Denmark, [4]MTT Agrifood Research Finland, Jokioinen, Finland

836 **Heterosis and Breed Effects for Milk Production, Udder Health and Fertility in Danish Herds applying Systematic Crossbreeding.**
*E. Norberg[*1], L. H. Sørensen[2], K. Byskov[3] and M. Kargo[1,4], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Center for Quantitative Genetics and Genomics, Dept. of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [3]Knowledge Centre for Agriculture, Aarhus, Denmark, [4]Knowledge Center for Agriculture, Aarhus, Denmark*

837 **Assessing Admixture by Quantifying Breed Composition to Gain Historical Perspective on Dairy Cattle in Canada.**
S. G. Larmer[*], Center For Genetic Improvement of Livestock - University of Guelph, Guelph, ON, Canada

838 **Fertility and Production of 3-Breed and Third Generation Holstein-Sired Crossbreds Compared to Pure Holstein Cows in a Seasonal Pasture Production System.**
*B. J. Heins[*1], A. R. Hazel[2] and L. B. Hansen[2], [1]University of Minnesota West Central Research and Outreach Center, Morris, MN, [2]University of Minnesota, Saint Paul*

839 **Novel Function Describing Dairy Cow Lactation of Holstein Breed.**
T. M. Gonçalves[*], Federal University of Lavras, Lavras, Brazil

840 **Correlation Between PTA for Milk and Beef Traits of Guzerá Animals from Dual-Purpose Herds in Brazil.**
*M. G. C. D. Peixoto[*1], R. A. Canda[2], F. A. T. Bruneli[1], G. G. Santos[1], H. T. Ventura[3] and P. S. Lopes[4], [1]Embrapa Dairy Cattle, Juiz de Fora, Brazil, [2]Universidade Eduardo Mondlane, Vilanculos, Mozambique, [3]Associação Brasileira de Criadores de Zebu, Uberaba, Brazil, [4]Universidade Federal de Viçosa, Viçosa, Brazil*

841 **Phenotypic and Genetic Trends for Growth and Milk Traits of Guzera Breed in Dual Purpose Herds.**
*F. A. T. Bruneli[*1], R. A. Canda[2], G. G. Santos[1], C. H. C. Machado[3], P. S. Lopes[4] and M. G. C. D. Peixoto[1], [1]Embrapa Dairy Cattle, Juiz de Fora, Brazil, [2]Universidade Eduardo Mondlane, Vilanculos, Mozambique, [3]ABCZ, Uberaba, Brazil, [4]Universidade Federal de Viçosa, Viçosa, Brazil*

842 **Genomic Estimates of Inbreeding and Coancestry in Austrian Brown Swiss Cattle.**
*F. Gómez-Romano[1], J. Soelkner[2], B. Villanueva[1], G. Mészáros[2], A. de Cara[3], A. M. Pérez O`Brien[2] and J. Fernández[*1], [1]INIA, Madrid, Spain, [2]University of Natural Resources and Life Sciences, Vienna, Austria, [3]Museum National d'Histoire Naturelle, Paris, France*

843 **Phenotypic and Genetic Analysis Of Milk Fatty Acids in UK Holstein-Friesians.**
S. Smith[*], M. P. Coffey and E. Wall, SRUC, Edinburgh, United Kingdom

Posters: Sheep and Goats Breeding (Group 3)
Chair: Julius H.J. van der Werf CRC for Sheep Industry Innovation and John C McEwan, AgResearch

Presentation Time: 3:00 PM – 3:30 PM

901 **Genetic and Phenotypic Characterization of African Goat Populations to Prioritize Conservation and Production Efforts for Small-holder Farmers in Sub-Saharan Africa.**
*H. J. Huson[*1], T. S. Sonstegard[2], J. Silverstein[3], J. Woodward-Greene[3], C. Masiga[4], F. C. Muchadeyi[5], J. Rees[5], B. Sayre[6], A. R. Elbeltagy[7], M. F. Rothschild[8], D. F. Mujibi[9], O. Mwai[9], S. Kemp[9], L. Colli[10], P. Ajmone-Marsan[11], P. Crepaldi[12], J. Soelkner[13], C. P. VanTassell[14] and S. Abegaz[13], [1]Cornell University, Ithaca, NY, [2]USDA, ARS, BFGL, Beltsville, MD, [3]USDA-ARS, Beltsville, MD, [4]ASARECA, Entebbe, Uganda, [5]Agricultural Research Council-Biotechnology Platform, Pretoria, South Africa, [6]Virginia State University, Petersburg, VA, [7]Animal Production Research Institute, Cairo, Egypt, [8]Iowa State University, Ames, [9]International Livestock Research Institute, Nairobi, Kenya, [10]Universita Cattolica del Sacro Cuore, Piacenza, Italy, [11]Università Cattolica del Sacro Cuore, Piacenza, Italy, [12]Università di Milano, Milano, Italy, [13]University of Natural Resources and Life Sciences, Vienna, Austria, [14]Bovine Functional Genomics Laboratory ARS-USDA, Beltsville, MD*

902 **Lambing Ease is Heritable but not Correlated to Litter Size in Danish Meat Sheep Breeds.**
*A. C. Sørensen[*1], P. Valasek[2], J. Pedersen[3] and E. Norberg[1], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Czech University of Agriculture, Prague, Czech Republic, [3]Knowledge Centre for Agriculture, Aarhus, Denmark*

903 **Characterization of a New Allele Encoding α_{s2}–casein in the Lacaune Dairy Sheep: Possible Phylogeny Relationship among *CSN1S2* Alleles.**
*Z. H. Fang[*1,2,3], G. Miranda[1,2] and P. Martin[1,2], [1]INRA, UMR1313 GABI, Jouy-en-Josas, France, [2]Agroparistech, UMR 1313, GABI, Jouy-en-Josas, France, [3]Wageningen University,Animal Breeding and Genomics Centre, Jouy-en-Josas, Netherlands*

904 **Using Phantom Groups to Increase the Accuracy of Breeding Values of Dohne Merinos Upgraded from a Commercial Base to the Pedigreed Population.**
*W. M. Jordaan[1], S. W. Cloete[2], B. J. Olivier[2,3] and K. Dzama[*4], [1]University of Stellenbosch, Stellenbosch, WV, South Africa, [2]Directorate Animal Sciences, Elsenburg, South Africa, [3]Institute for Animal Production, Elsenburg, South Africa, [4]University of Stellenbosch, Stellenbosch, South Africa*

905 **Targeted Association Mapping in Merinoland Crossbred Lambs.**
*K. Schiller[*1], P. Stratz[2], S. Preuss[3] and J. Bennewitz[4], [1]Institute for Animal Husbandry and Breeding, University Hohenheim, Stuttgart, Germany, [2]Institute of Animal Husbandry and Breeding, University Hohenheim, Hohenheim, Germany, [3]Institute for Animal Husbandry and Breeding, University of Hohenheim, 70599 Stuttgart, Germany, [4]Institute of Animal Husbandry and Breeding, University Hohenheim, Stuttgart, Germany*

906 **Genomic Analysis of the Spring Leg Defect in the Canadian Dorset Sheep Breed.**
*J. Cameron[1], M. Jafarikia[2,3], L. Maignel[*2] and R. Morel[1], [1]Centre d'expertise en production ovine du Québec, La Pocatière, QC, Canada, [2]Canadian Centre for Swine Improvement, Ottawa, ON, Canada, [3]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada*

907 **Genetic Analysis of Adult Body Weight and Condition Scores in Merino Sheep.**
D. J. Brown[*] and A. A. Swan, Animal Genetics and Breeding Unit, UNE, Armidale, Australia

908 **Breed Variation in Wool Quality, Growth and Plasma Metabolites of Prime Lambs Fed Degummed Canola.**
*A. E. Malau-Aduli[*1,2], P. D. McEvoy[3], D. Parsons[3] and P. A. Lane[3], [1]University of Tasmania, Hobart, Tasmania, Australia, [2]James Cook University, Townsville, Australia, [3]University of Tasmania, Hobart, Australia*

909 **Screening for Footrot Resistant Gene Markers and White Blood Cell Types in Katahdin and Katahdin Crossbred Sheep.**
*T. Wuliji[*1], W. R. Lamberson[2], S. Azarpajouh[1], J. G. Hickford[3], B. C. Shanks[1] and J. D. Caldwell[1], [1]Department of Agriculture and Environmental Sciences, Lincoln University, Jefferson City, MO, [2]University of Missouri, Columbia, [3]Lincoln University, Lincoln, New Zealand*

910 **Genetic Parameters of Objectionable Fibres, Skin Spots and Halo-hair in Corriedale Sheep.**
*A. Sanchez[*1], J. I. Urioste[1], F. Peñagaricano[2], K. Neimaur[1], I. Sienra[1] and R. Kremer[1], [1]Universidad de la República, Montevideo, Uruguay, [2]University of Wisconsin, Madison*

911 **Situation Analysis for the Performance Recording of Australian Meat Goats.**
*M. N. Aldridge[*1], D. J. Brown[2], T. Hooke[3] and W. S. Pitchford[1], [1]School of Animal and Veterinary Sciences, The University of Adelaide, Roseworthy, Australia, [2]Animal Genetics and Breeding Unit, UNE, Armidale, Australia, [3]Meat and Livestock Australia Limited, Armidale, Australia*

912 **Effects of Selection Accuracy, Risk and Young Ewe Fertility on Breeding Program Design.**
*J. E. Newton[*1,2,3], D. J. Brown[1], A. A. Swan[1], S. Dominik[2] and J. van der Werf[3], [1]Animal Genetics and Breeding Unit, UNE, Armidale, Australia, [2]CSIRO Animal Food and Health Sciences, Armidale, Australia, [3]University of New England, Armidale, Australia*

913 **The Relationship of OPP Infection to TMEM154 Genotype in a Midwestern Sheep Flock.**
*T. W. Murphy[*1], D. L. Thomas[1], T. A. Taylor[1], M. J. Maroney[2] and K. M. Nelson[2], [1]University of Wisconsin-Madison, Department of Animal Sciences, Madison, WI, [2]University of Wisconsin-Madison, Research Animal Resources Center, Madison, WI*

914 **Effects of Boer Crossbreeding and Base Kiko and Spanish Influences on Meat Goat Doe Performance in the Southeastern United States.**
*R. Browning, Jr.[*1], A. S. Nguluma[1], L. Wang[1], J. L. Groves[1] and M. L. Leite-Browning[2], [1]Tennessee State University, Nashville, TN, [2]Alabama A&M University, Huntsville*

915 **Transcriptome Comparison between the Pubertal and Adult Testis in Goats.**
*Z. Liu[*1], J. Li[2], H. Xiao[1], W. Liu[3], X. Yue[3] and Y. Ma[3], [1]Inner Mongolia Agriculture University, Hohhot, China, [2]inner Mongolia Agriculture University, Hohhot, China, [3]The Pennsylvania State University, University Park*

Posters: Statistical and Genomic Tools for Mapping QTL and Genes (Group 1)
Chair: Michael E. Goddard, Department of Environment and Primary Industries

Presentation Time: 3:00 PM – 3:30 PM

669 **Comparison of Linkage Disequilibrium Uncovered by Moderate and High Density Arrays in Brown Swiss Dairy Cattle and in White Leghorn Layer Chickens.**
*E. Lipkin[*1], M. A. Dolezal[2], A. Bagnato[2], J. E. Fulton[3], N. P. O'Sullivan[3], E. Santus[4], D. Burt[5] and M. Soller[1], [1]Hebrew Univarsity of Jerusalem, Jerusalem, Israel, [2]Università degli Studi di Milano, Milano, Italy, [3]Hy-Line International, Dallas Center, IA, [4]ANARB, Italian Brown Cattle Breeders' Association, Bussolengo (VR), Italy, [5]The Roslin Institute and Royal (Dick) School of Veterinary Studies, Edinburgh, United Kingdom*

Posters: Dairy Cattle Breeding (Group 4)
Chair: Kent A. Weigel, University of Wisconsin, Hermann Swalve, Martin Luther University Halle-Wittenberg, and Christian Maltecca, North Carolina State University

Presentation Time: 3:30 PM – 4:00 PM

844 **Combi-Cross – The Use of New Technologies for Improving Dairy Crossbreeding Programs.**
*M. Kargo[*1,2], J. Ettema[3], L. H. Sørensen[4], M. Fjordside[5] and L. Hjortø[6], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Knowledge Center for Agriculture, Aarhus, Denmark, [3]SimHerd Inc., Tjele, Denmark, [4]Center for Quantitative Genetics and Genomics, Dept. of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [5]VikingDenmark, Viborg, Denmark, [6]Knowledge Centre for Agriculture, Aarhus, Denmark*

845 **Use of DNA Markers in Parentage Testing in Mexican Jersey Cattle.**
R. Cuevas-Pat, R. Núñez-Domínguez[*], E. Valadez-Moctezuma, R. Ramírez-Valverde and A. Ruiz-Flores, Universidad Autónoma Chapingo, Chapingo, Mexico

846 **The Impact of Daughter Misidentification on the Genetic Evaluation of Dairy Sires.**
A. M. Winkelman[*], Livestock Improvement Corporation, Hamilton, New Zealand

847 **Genetic Parameters of Milk Yield at Different Somatic Cell Count Levels using Multiple-Trait Random Regression in Holsteins.**
*K. Kheirabadi[1], S. O. Peters[2], I. G. Imumorin[*3] and M. Ghaderi-Zefrehei[1], [1]University of Yasouj, Yasouj, Iran, [2]Berry College, Mount Berry, GA, [3]Cornell University, Ithaca, NY*

848 **Genomic Predictions of Feed Utilization and Associations with Milk Yield, Body Weight and Activity Levels in an Independent Population of Holsteins.**
C. D. Dechow[*] and I. W. Haagen, Pennsylvania State University, University Park

849 **An Approach to Genomic Analysis of Longitudinal Data using Random Regression.**
*D. J. A. Santos[*1], S. A. Boison[2], A. T. H. Utsunomiya[3], M. G. C. Peixoto[4], H. Tonhati[1], J. Sölkner[2] and M. V. G. B. da Silva[4], [1]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil, [2]University of Natural Resources and Life Sciences, Vienna, Austria, [3]UNESP Univ Estadual Paulista, Jaboticabal, Brazil, [4]Embrapa Dairy Cattle, Juiz de Fora, Brazil*

Posters: Methods and Tools - Genome Sequencing
Chair: Ben J. Hayes, Department of Environment and Primary Industries

Presentation Time: 3:30 PM – 4:00 PM

659 **Genome Data from a 16th Century Pig Illuminates Modern Breed Relationships.**
M. Perez-Enciso[*], Universitat Autònoma de Barcelona, Bellaterra, Spain

660 **High Imputation Accuracy in Layer Chicken from Sequence Data on a Few Key Ancestors.**
*M. Heidaritabar[*1], M. P. L. Calus[2], A. Vereijken[3], M. A. Groenen[4] and J. W. M. Bastiaansen[4], [1]Wageningen University, Wageningen, Netherlands, [2]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands, [3]Hendrix Genetics, Boxmeer, Netherlands, [4]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands*

661 **Imputation of Sequence Level Genotypes in the Franches-Montagnes Horse Breed.**
*M. Frischknecht[*1,2,3,4], M. Neuditschko[1,3], V. Jagannathan[2,3], C. Drögemüller[2,3], J. Tetens[5], G. Thaller[6], T. Leeb[2,3] and S. Rieder[1,3], [1]Agroscope - Swiss National Stud Farm, Avenches, Switzerland, [2]Institute of Genetics, Vetsuisse Faculty, University of Bern, Bern, Switzerland, [3]Swiss Competence Center of Animal Breeding and Genetics, Bern, Switzerland, [4]Graduate School for Cellular and Molecular biology, University of Bern, Bern, Switzerland, [5]Institute of Animal Breeding and Husbandry, Christian-Albrechts-Universität zu Kiel, Kiel, Germany, [6]Institute of Animal Breeding and Husbandry, University Kiel, Kiel, Germany*

662 **Post Alignment Reads Quantification of the Pig Transcriptome Sequencing.**
K. Zukowski[*], K. Ropka-Molik, K. Piorkowska and A. Gurgul, National Research Institute of Animal Production, Balice, Poland

664 **Genomic Prediction with 12.5 Million SNPs for 5503 Holstein Friesian Bulls.**
*R. van Binsbergen[*1,2], M. P. L. Calus[2], M. C. A. M. Bink[1], C. Schrooten[3], F. A. van Eeuwijk[1] and R. F. Veerkamp[2], [1]Biometris, Wageningen UR, Wageningen, Netherlands, [2]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands, [3]CRV, Arnhem, Netherlands*

665 **Characterization of Genetic Variation in Icelandic Cattle.**
*L. E. Holm[*1], A. Das[1], J. Momeni[1], F. Panitz[1], C. Bendixen[1] and E. Eythorsdottir[2], [1]Dept. Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Faculty of Land and Animal resources, Agricultural University of Iceland, Reykjavik, Iceland*

666 **Identification and Annotation of Genetic Variants (SNP/Indel) in Danish Jutland Cattle.**
A. Das[*], F. Panitz and L. E. Holm, Dept. Molecular Biology and Genetics, Aarhus University, Tjele, Denmark

667 **Accuracy of Whole-Genome Sequence Genotype Imputation in Cattle Breeds.**
*H. Li[*1], M. Sargolzaei[1,2] and F. S. Schenkel[1], [1]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [2]The Semex Alliance, Guelph, ON, Canada*

668 **Comparison of Variant Calling Methods for Whole Genome Sequencing Data in Dairy Cattle.**
*C. F. Baes[*1,2], M. A. Dolezal[3,4], E. Fritz-Waters[5], J. E. Koltes[5], B. Bapst[2], C. Flury[6], H. Signer-Hasler[7], C. Stricker[8], R. L. Fernando[5], F. Schmitz-Hsu[9], D. J. Garrick[5] and B. Gredler[2], [1]Bern University of Applied Sciences, School of Agriculture, Forest and Food Sciences, Zollikofen, Switzerland, [2]Qualitas AG, Zug, Switzerland, [3]University of Veterinary Medicine Vienna, Vienna, Austria, [4]Università degli Studi di Milano, Milano, Italy, [5]Iowa State University, Ames, [6]Bern University of Applied Sciences, School of Agricultural, Forest and Food Sciences, Zollikofen, Switzerland, [7]Bern University of Applied Sciences, School of Agriculture, Forest and Food Sciences, Zoll, Switzerland, [8]agn-genetics, Davos, Switzerland, [9]swissgenetics, Zollikofen, Switzerland*

Posters: Statistical and Genomic Tools for Mapping QTL and Genes (Group 2)
Chair: Michael E. Goddard, Department of Environment and Primary Industries and Michel Georges, University of Liège

Presentation Time: 3:30 PM – 4:00 PM

670 **Local Score Based Method Applied On Pool-Sequenced Behavior-Divergent Lines Precisely Detected Selection Signatures Related To Autism In Quail.**
*M. I. Fariello Rico[*1,2,3], S. Boitard[4,5], S. Mercier[6,7], D. Robelin[3], T. Faraut[3], C. Arnould[8], E. Lebihan[9], J. Recoquillay[9], G. Salin[3,10], P. Dehais[11,12], F. Pitel[13], C. Leterrier[8] and M. SanCristobal[3,7,14], [1]Institute Pasteur Montevideo, Montevideo, Uruguay, [2]IMERL, Facultad de Ingeniería, Universidad de la República, Montevideo, Uruguay, [3]INRA, UMR1388 GenPhySE, Castanet-Tolosan, France, [4]GABI (INRA / AgroParisTech), Jouy-en Josas, France, [5]UMR 7205 ISYEB (MNHN / CNRS / EPHE / UPMC), Paris, France, [6]Université Toulouse Le Mirail, Toulouse, France, [7]Institut de Mathématiques de Toulouse, Toulouse, France, [8]INRA, UMR85 Physiologie de la Reproduction et des Comportements, Nouzilly, France, [9]INRA, UR83 Recherches Avicoles, Nouzilly, France, [10]INRA, GeT, Castanet-Tolosan, Castanet-Tolosan, France, [11]INRA Toulouse, SIGENAE, France, Castanet-Tolosan, France, [12]INRA UMR1388 GenPhySe, Castanet-Tolosan, France, [13]UMR 1388 INRA / INPT ENSAT / INPT ENVT, GenPhySE, Castanet-Tolosan, France, [14]INSA Toulouse, GMM, Toulouse, France*

671 **A New Method to Estimate Recombination Rate Based on SNP Allelic Dosage Data.**
T. Yang[*], Z. Wang, Z. Hu and G. S. Plastow, University of Alberta, Edmonton, AB, Canada

672 **The Impact of Linkage Disequilibrium on Estimable Genetic Effects at Markers in the Presence of Dominance.**
*C. Heuer[1] and G. Thaller[*2], [1]Institute of Animal Bredding and Husbandry, Kiel University, Kiel, Germany, [2]Institute of Animal Breeding and Husbandry, University Kiel, Kiel, Germany*

673 **Gene Based Association Approach Identify Genes Across Stress Traits in Fruit Flies.**
*P. Jensen[*1,2], S. M. Edwards[3], P. M. Sarup[3] and P. Sørensen[1], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Section of Genetics, Ecology and Evolution, Department of Bioscience, Aarhus University, Aarhus, Denmark, [3]Center of Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark*

674 **Accounting for Population Structure and Haplotype Diversity in Whole Genome Scans for Selection Signatures.**
*B. Servin[*1], S. Boitard[2,3], C. Chevalet[1], M. I. Fariello[4], F. Phocas[5] and M. SanCristobal[6], [1]INRA, Castanet-Tolosan, France, [2]Museum National d'Histoire Naturelle, Paris, France, [3]INRA, Jouy-en-Josas, France, [4]Universidad de la Republica, Montevideo, Uruguay, [5]INRA, UMR1313 GABI, Jouy-en-Josas, France, [6]INRA, UMR1388 GenPhySE, Castanet-Tolosan, France*

675 **Applying Runs of Homozygosity to the Detection of Associations between Genotype and Phenotype in Farm Animals.**
*F. Biscarini[*1], S. Biffani[2], E. L. Nicolazzi[1], N. Morandi[3] and A. Stella[1], [1]Fondazione Parco Tecnologico Padano, Lodi, Italy, [2]IBBA-CNR, Lodi, Italy, [3]Parco Tecnologico Padano (PTP), Lodi, Italy*

676 **Haplo-Block Structure of Southern African Village Chicken Populations.**
*K. S. Khanyile[*1,2], E. F. Dzomba[1] and F. C. Muchadeyi[3], [1]University of KwaZulu-Natal, Pietermaritzburg, South Africa, [2]ARC-OVI Biotechnology Platform, Pretoria, South Africa, [3]Agricultural Research Council-Biotechnology Platform, Pretoria, South Africa*

677 **Using Haplotype Mapping to Uncover the Missing Heritability: A Simulation Study.**
*M. Shirali[*1], R. Pong-Wong[2], S. Knott[3], C. Hayward[1], V. Vitart[1], I. Rudan[4,5], H. Campbell[4], N. Hastie[1], A. F. Wright[1], P. Navarro[1] and C. Haley[1,2], [1]MRC Human Genetics Unit, MRC IGMM, University of Edinburgh, Edinburgh, United Kingdom, [2]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [3]Institute of Evolutionary Biology, University of Edinburgh, Edinburgh, United Kingdom, [4]Centre for Population Health Sciences, University of Edinburgh, Edinburgh, United Kingdom, [5]Croatian Centre for Global Health, Faculty of Medicine, University of Split, Split, Croatia*

678 **Association between Copy Number Variation Regions and Meat Tenderness in Nelore Cattle.**
*M. P. Berton[*1], M. V. A. Lemos[2], C. Aboujaoude[2], G. M. de Camargo[3], L. A. L. Chardola[4], L. G. Albuquerque[3] and F. Baldi[2], [1]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, São Paulo, Brazil, Jaboticabal, Brazil, Jaboticabal, Brazil, [2]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil, [3]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil, [4]State University of São Paulo, Botucatu, São Paulo, Brazil, Botucatu, Brazil*

679 **Bayes U: A Genomic Prediction Method Based on the Horseshoe Prior.**
R. Pong-Wong[*] and J. A. Woolliams, The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom

680 **PREGSF90 – POSTGSF90: Computational Tools for the Implementation of Single-Step Genomic Selection and Genome-Wide Association with Ungenotyped Individuals in BLUPF90 Programs.**

*I. Aguilar[*1], I. Misztal[2], S. Tsuruta[2], A. Legarra[3] and H. Wang[4], [1]INIA, Las Brujas, Uruguay, [2]University of Georgia, Athens, [3]INRA, UMR 1388 GenPhySE, Castanet-Tolosan, France, [4]Genus, Plc, Hendersonville, TN*

681 **Weighted Single-Step Genomic BLUP: An Iterative Approach for Accurate Calculation of GEBV and GWAS.**
*X. Zhang[*1], D. A. L. Lourenco[1], I. Misztal[1], I. Aguilar[2] and A. Legarra[3], [1]University of Georgia, Athens, [2]INIA, Las Brujas, Uruguay, [3]INRA, UMR 1388 GenPhySE, Castanet-Tolosan, France*

682 **Analyses of Copy Number Variation Regions in the Nelore Cattle Genome.**
*M. V. A. Lemos[*1], M. P. Berton[2], C. Aboujaoude[3], F. Feitosa[2], G. M. de Camargo[4], L. G. Albuquerque[4], F. Baldi[3] and G. C. Venturini[5], [1]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, São Paulo, Brazil, [2]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, São Paulo, Brazil, Jaboticabal, Brazil, Jaboticabal, Brazil, [3]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil, [4]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil, [5]Sao Paulo State University (UNESP), Jaboticabal, Brazil*

683 **Genome-Wide Homozygosity in Italian Holstein Cattle using HD SNP Panel.**
*G. Gaspa[*1], G. Marras[1], S. Sorbolini[1], P. Ajmone-Marsan[2], J. L. Williams[3], A. Valentini[4], C. Dimauro[1] and N. P. P. Macciotta[1], [1]Università di Sassari, Sassari, Italy, [2]Università Cattolica del Sacro Cuore, Piacenza, Italy, [3]Fondazione Parco Tecnologico Padano, Lodi, Italy, [4]Università della Tuscia, Italy, Viterbo, Italy*

684 **Study of Linkage Disequilibrium in Brazilian Milk Buffaloes.**
*D. F. Cardoso[*1,2], R. R. Aspilcueta Borquis[2], D. J. A. Santos[2], N. Hurtado-Lugo[2], G. M. de Camargo[2], D. C. Scalez[2], L. G. de Albuquerque[3] and H. Tonhati[2], [1]Fundação de Amparo à Pesquisa do Estado de São Paulo -FAPESP(Bolsista), Sao Paulo, Brazil, [2]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil, [3]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil*

685 **Estimating Genomic Variance Explained per Chromosome using Pedigree and Genomic Data in Sheep.**
*C. Esquivelzeta-Rabell[*1], N. Moghaddar[1], S. Clark[2] and J. van der Werf[2], [1]School of Environmental & Rural Science, University of New England, Armidale, Australia, [2]University of New England, Armidale, Australia*

Wednesday, August 20, 2014

Posters: Breeding Objectives, Economics of Selection Schemes, and Advances in Selection Theory (Group 1)
Chair: Jack C. M. Dekkers, Iowa State University

Presentation Time: 9:30 AM – 10:00 AM

384 **Evaluation of Brazilian Dairy Goat Breeding Programs.**
*R. N. B. Lobo[*1,2], L. H. dos Santos[2,3], O. Facó[1] and A. M. B. O. Lobo[1], [1]Embrapa Goats and Sheep, Sobral, Brazil, [2]Federal University of Ceará, Fortaleza, Brazil, [3]Federal University of Maranhão, Imperatriz, Brazil*

385 **An Initial Study of the Economic Values of Dairy Cattle Traits in Canadian Holsteins Estimated using Random Regression Models.**
*R. I. Cue[*1], K. Wade[2], A. Sewalem[3], H. A. Delgado[2], D. M. Lefebvre[4], R. Lacroix[4], E. Bouchard[5], D. Haine[5] and J. Dubuc[5], [1]McGill University, Department of Animal Science, Ste-Anne-de-Bellevue, QC, Canada, [2]McGill University, Sainte Anne de Bellevue, QC, Canada, [3]Agriculture and Agrifoods Canada, Guelph, ON, Canada, [4]Valacta, Ste-Anne-de-Bellevue, QC, Canada, [5]University of Montreal, Saint-Hyacinthe, QC, Canada*

386 **Approximate Multivariate Genetic Evaluation of Functional Longevity and Type Traits in Austrian Fleckvieh Cattle.**
*C. Pfeiffer[*1], B. Fuerst-Waltl[2], V. Ducrocq[3] and C. Fuerst[4], [1]University of Natural Resources and Life Sciences, Vienna, Austria, [2]University of Natural Resources and Life Sciences (BOKU), Vienna, Austria, [3]INRA, UMR1313 GABI, Jouy-en-Josas, France, [4]ZuchtData EDV-Dienstleistungen GmbH, Vienna, Austria*

387 **Genetic Parameters for Milk Production Traits and Breeding Goals for Gir Dairy Cattle in Brazil.**
*M. A. Prata[*1], H. Luis Moreira[1], R. D. Silva Verneque[2], A. Eugênio Vercesi Filho[3], M. G. Campolina Diniz Peixoto[2], L. El Faro[4] and V. Lúcia Cardoso[1], [1]Universidade de São Paulo, Faculdade de Medicina de Ribeirão Preto- Departamento de Genética-*

FMRP-USP, Ribeirão Preto, Brazil, [2]Embrapa Dairy Cattle, Juiz de Fora, Brazil, [3]Instituto de Zootecnia, Sertãozinho, Brazil, [4]SAA/APTA/Instituto de Zootecnia-Centro de Bovinos de Corte, Sertãozinho-SP, Brazil

388 **Consumers' Preference for "Bicycle Poultry" in Bénin: Implication for Designing Breeding Schemes.**
*E. Sodjinou[1], A. Henningsen[2], D. O. Koudande[*1], G. Biaou[3] and G. A. Mensah[1], [1]Institut National des Recherches Agricoles du Bénin, Cotonou, Benin, [2]Department of Food and Resource Economics, University of Copenhagen, Copenhagen, Denmark, [3]Faculté des Sciences Agronomiques, Université d'Abomey-Calavi, Abomey-Calavi, Benin*

389 **A Comparison of Restricted Selection Procedures Based on Restricted Best Linear Unbiased Prediction of Breeding Values.**
M. Satoh[*] and M. Nishio, NARO Institute of Livestock and Grassland Science, Tsukuba, Japan

390 **Preliminary Results of an Investigation on Innovative Breeding Objectives to Improve Efficiency in Extensive Cow-Calf Production Systems in the Bonsmara Breed.**
*M. C. Mokolobate[*1,2], M. M. Scholtz[1,2], F. W. C. Neser[2], F. J. Jordaan[1,2] and S. D. Mulugeta[3], [1]ARC-Animal Production Institute, Irene, South Africa, [2]University of the Free State, Bloemfontein, South Africa, [3]North West University, Mahikeng, South Africa*

391 **Did Genetic Change Improve Production Efficiency in Three Landrace Breeds of South Africa?.**
*F. J. Jordaan[*1], M. M. Scholtz[1], F. W. C. Neser[1], N. A. Maiwashe[1,2] and Z. King[2], [1]University of the Free State, Bloemfontein, South Africa, [2]ARC-Animal Production Institute, Irene, South Africa*

392 **Incorporating Risks in Economic Values for Pigs in Smallholder Production Systems in Kenya.**
*J. Mbuthia[*1], T. Rewe[2], T. Okeno[3] and A. Kahi[1], [1]Egerton University, Njoro, Kenya, [2]Pwani University, Kilifi, Kenya, [3]Aarhus University, Tjele, Denmark*

393 **Estimating the Economic Value of using a Panel of Tenderness Markers to Select for Improved Consumer Palatability Scores.**
*M. J. Kelly[*1] and J. M. Thompson[2], [1]The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, Brisbane, Australia, [2]The University of New England, Armidale, Australia*

394 **Selection Strategies Utilizing Genetic Resources to Adapt Livestock to Climate Change.**
B. A. Åby[*] and T. H. E. Meuwissen, Norwegian University of Life Sciences, Ås, Norway

395 **Optimization of a Meat Index for Austrian Land Sheep.**
L. Grill, A. Willam[*], R. Baumung and B. Fuerst-Waltl, University of Natural Resources and Life Sciences (BOKU), Vienna, Austria

396 **Genetic Gain and Economic Weights of Selection Strategies Including Boar Semen Traits in a Cross-Breeding System.**
*D. Gonzalez-Peña Fundora[*1], R. V. Knox[2], M. D. MacNeil[3] and S. L. Rodriguez Zas[2], [1]University of Illinois, Urbana, [2]University of Illinois, Urbana, [3]University of the Free State, Bloemfontein, South Africa*

397 **AccurAssign, Software for Accurate Maximum-Likelihood Parentage Assignment.**
*D. Boichard[*1], L. Barbotte[2] and L. Genestout[2], [1]INRA, UMR1313 GABI, Jouy-en-Josas, France, [2]Labogena-DNA, Jouy en Josas, France*

Posters: Genetics of Trait Complexes - Lactation
Chair: Juan F. Medrano, University of California

Presentation Time: 9:30 AM – 10:00 AM

609 **Using Random Regression Models to Optimize Selection for Yield, Persistency and Calving Interval in Philippine Dairy Buffaloes.**
*E. B. Flores[*1,2] and J. van der Werf[3], [1]School of Environmental and Rural Science University of New England, Armidale, Australia, [2]Philippine Carabao Center, Muñoz Nueva Ecija, Philippines, [3]University of New England, Armidale, Australia*

610 **Initial RNA-Seq Analysis on the Milk Transcriptional Profiling of Two Sheep Breeds.**
*A. Suarez-Vega[1], B. Gutierrez-Gil[2], C. Esteban[3] and J. J. Arranz[*2], [1]Universidad de León, Leon, Spain, [2]Universidad de León, León, Spain, [3]Supercomputing Center of Castile and León, Leon, Spain*

611 **Principal Components for Reproductive and Productive Traits in Buffaloes from Brazil.**
*D. Portela de Oliveira[*1,2], C. D. C. Barros[1], F. Ribeiro Araujo Neto[1], D. Lourenco[3], N. A. Hurtado Lugo[1] and H. Tonhati[4], [1]Universidade Estadual Paulista "Júlio de Mesquista Filho" (FCAV-UNESP), Jaboticabal, Brazil, [2]CAPES Foundation, Ministry of Education of Brazil, Brasília – DF 70.040-020, Brasília, Brazil, [3]University of Georgia, Athens, [4]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil*

612 **Fine-Mapping of a Candidate Region Associated with Milk-Fat Composition on Bos Taurus Autosome 17.**
*S. I. Duchemin[*1,2], M. H. P. W. Visker[3], J. A. M. van Arendonk[1] and H. Bovenhuis[1], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden, [3]TI Food and Nutrition, Wageningen, Netherlands*

613 **Comparison of Genetic Parameters Estimation of Fatty Acids from Gas Chromatography and FT-IR in Holsteins.**
*N. A. Poulsen[*1], C. E. Eskildsen[2], T. Skov[2], L. B. Larsen[1] and A. J. Buitenhuis[3], [1]Aarhus University, Food Science, Tjele, Denmark, [2]University of Copenhagen, Food Science, Copenhagen, Denmark, [3]Aarhus University, Center for Quantitative Genetics and Genomics, Dept. of Molecular Biology and Genetics, Tjele, Denmark*

614 **Estimation of Genetic Parameters for the Protein Profile in Danish Holstein Milk.**
*A. J. Buitenhuis[*1], N. A. Poulsen[2] and L. B. Larsen[2], [1]Aarhus University, Center for Quantitative Genetics and Genomics, Dept. of Molecular Biology and Genetics, Tjele, Denmark, [2]Aarhus University, Food Science, Tjele, Denmark*

615 **QTL Detection for Milk Fatty Acids in French Dairy Cattle.**
*A. Govignon-Gion[*1], S. Fritz[2,3], H. Larroque[4], M. Brochard[5], C. Chantry[6], F. Lahalle[7,8] and D. Boichard[2], [1]INRA, UMR 1313 GABI, Jouy-en-Josas, France, [2]INRA, UMR1313 GABI, Jouy-en-Josas, France, [3]UNCEIA, Paris, France, [4]INRA, UMR 1388 GenPhySE, Castanet-Tolosan, France, [5]Idele, Paris, France, [6]LABOGENA, Jouy-en-Josas, France, [7]Institut de l'Elevage, Paris, France, [8]CNIEL, Paris, France*

616 **Genetic Parameters of Average Milk Flow Recorded Electronically from Milking Parlours and Automatic Milking Systems in Estonian Holstein Dairy Cows.**
*D. Pretto[*1], A. Tänavots[1,2], H. Kiiman[1,2], E. Pärna[1,2], H. Viinalass[1,2] and T. Kaart[1,2], [1]Institute of Veterinary Medicine and Animal Sciences, Estonian University of Life Sciences, Tartu, Estonia, [2]Bio-Competence Centre of Healthy Dairy Products (BioCC) LLC, Tartu, Estonia*

617 **QTL Detection for Fat Yield on BTA14 using Linkage Disequilibrium Based Methods.**
*M. J. Beribe[*1], H. A. Carignano[1], N. Lopez-Villalobos[2], M. Poli[1] and D. L. Roldan[1], [1]Instituto de Genética CICVyA-INTA, Buenos Aires, Argentina, [2]Massey University, Palmerston North, New Zealand*

618 **Mid-infrared Spectroscopy to Predict Important Milk Quality Traits in Irish Cows.**
*A. A. Mc Dermott[*1,2], G. Visentin[1,2], M. De Marchi[2], O. A. Kenny[3], M. Fenlon[3] and S. McParland[4], [1]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [2]Department of Agronomy, Food, Natural resources, Animals and Environment, University of Padova, Legnaro, Italy, [3]Food Science Research Centre,Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [4]Teagasc, Moorepark, Fermoy, Co. Cork, Ireland*

619 **Using SNP to Enhance Fatty Acids Composition in Goat Milk.**
S. Chessa[*], P. Cremonesi, R. Moretti, F. Turri and B. Castiglioni, Institute of Agricultural Biology & Biotechnology - CNR, Lodi, Italy

620 **Genetic Relationship between Lactation Curve Traits in Dairy Cattle.**
*C. B. Wasike[*1], K. J. Peters[2] and A. K. Kahi[3], [1]Department of Animal Science, Maseno University, Maseno, Kenya, [2]Sheep and Goat Association of Berlin- Brandenburg, Berlin, Germany, [3]Department of Animal Sciences, Egerton University, Egerton, Kenya*

621 **Genome-Wide Association Study for Milk Total Unsaturated Fatty Acids in Brazilian Holstein Cows.**
*J. Petrini[*1], L. H. S. Iung[1], M. A. P. Rodriguez[1], F. Pértille[1], L. D. Cassoli[1], P. F. Machado[1], L. L. Coutinho[2] and G. B. Mourao[1],*

[1]Department of Animal Science, University of São Paulo/ESALQ, Piracicaba, Brazil, [2]Universidade de São Paulo/Esalq, Piracicaba, Brazil

622 **Random Regression Model Analysis for Total Milk Solids in First Lactation Dairy Cattle.**
*A. Zampar[1], F. S. Cavalcante[1], P. F. Machado[2], L. E. Bastos[1], A. B. Fraga[*1] and G. B. Mourão[2], [1]Federal University of Alagoas, Maceio, Brazil, [2]University of São Paulo, Piracicaba, Brazil*

623 **MicroRNAs are involved in Bovine Mammary Gland Response to Dietary Supplementation with Safflower Oil.**
*R. Li[1,2], F. Beaudoin[1], X. Zhao[3], C. Lei[2] and E. M. Ibeagha-Awemu[*1], [1]Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, [2]Northwest A&F University, Xi'an, China, [3]McGill University, St Ann De Bell, PQ, Canada*

624 **Genome-Wide Association for Somatic Cell Score in Holstein Cows Raised in Tropical Conditions.**
*L. H. S. Iung[1], J. Ramírez-Díaz[1], S. F. N. Pertile[1], J. Petrini[1], M. Salvian[*1], M. A. P. Rodriguez[1], R. R. Lima[2], P. F. Machado[3], L. L. Coutinho[4] and G. B. Mourao[1], [1]Department of Animal Science, University of São Paulo/ESALQ, Piracicaba, Brazil, [2]Federal University of Lavras, Lavras, Brazil, [3]University of São Paulo, Piracicaba, Brazil, [4]Universidade de São Paulo/Esalq, Piracicaba, Brazil*

Posters: Breeding Objectives, Economics of Selection Schemes, and Advances in Selection Theory (Group 2)
Chair: Jack C. M. Dekkers, Iowa State University

Presentation Time: 10:00 AM – 10:30 AM

398 **Prediction of Industry Production of Milk Components, Yields of Dairy Products and Lactose Deficit under the Current Breeding Objective of New Zealand Dairy Cattle.**
*N. W. Sneddon[*1], N. Lopez-Villalobos[1], R. E. Hickson[1], L. Shalloo[2], D. J. Garrick[3] and U. Geary[2], [1]Massey University, Palmerston North, New Zealand, [2]Teagasc, Fermoy Co. Cork, Ireland, [3]Iowa State University, Ames*

399 **Economic Analysis of Cross Breeding Programs for Indigenous Goat Breeds in Uganda.**
R. B. Onzima[*], Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands; Kachwekano Zonal Agricultural Research & Development Institute - NARO-Uganda, Kabale, Uganda

400 **Analysis of Breeding Strategies against Genetic Disorders in Austrian Fleckvieh Cattle.**
*C. Egger-Danner[*1], H. Schwarzenbacher[1], C. Fuerst[1] and A. Willam[2], [1]ZuchtData EDV-Dienstleistungen GmbH, Vienna, Austria, [2]University of Natural Resources and Life Sciences, Vienna, Austria*

401 **Genetic Parameters and Genetic Trends For Growth Litter Traits in the Tai Zumu line.**
*M. Banville[*1,2], L. Canario[2], M. Sourdioux[1], D. Bahon[1], J. Riquet[2] and L. Flatres-Grall[1], [1]GENE+, Erin, France, [2]INRA UMR1388, F-31326 Castanet-Tolosan, France*

402 **Heterogeneity of Variance for Lactation Persistency and Milk Yield at 305 Days of Gir Cows in Different Environments.**
*G. G. Santos[*1], C. E. Enriquez-Valencia[2], D. C. Scalez[2], D. J. A. Santos[3], M. G. Campolina Diniz Peixoto[1] and A. Eugênio Vercesi Filho[4], [1]Embrapa Dairy Cattle, Juiz de Fora, Brazil, [2]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil, [3]UNESP Univ Estadual Paulista, Jaboticabal, Brazil, [4]Instituto de Zootecnia, Sertãozinho, Brazil*

403 **Economic Values of Milk Production and Milk Coagulation Properties in Italian Holstein-Friesian Dairy Cattle.**
*M. Cassandro[*1], D. Pretto[2], M. De Marchi[1], M. Penasa[1] and N. Lopez-Villalobos[3], [1]Department of Agronomy, Food, Natural resources, Animals and Environment, University of Padova, Legnaro, Italy, [2]Estonian University of Life Sciences, Tartu, Estonia, [3]Massey University, Palmerston North, New Zealand*

404 **Economic Values for Milk Production and Composition Traits in the South and Southeast Regions of Brazil.**
*V. L. Cardoso[*1], M. L. Pereira Lima[2], A. E. Vercesi Filho[3], R. L. R. Carneiro[4], R. C. Sesana[4] and L. El Faro[3], [1]Apta Regional - PRDTA Centro Leste SAA/SP, Ribeirao Preto-SP, Brazil, [2]Instituto de Zootecnia APTA SAA/SP, Sertaozinho-SP, Brazil, [3]SAA/APTA/Instituto de Zootecnia-Centro de Bovinos de Corte, Sertãozinho-SP, Brazil, [4]CRV-Lagoa, Sertaozinho-SP, Brazil*

405 **An Estimate of the Economic Gain from Selection to Reduce BRDC Incidence in Dairy Calves.**
*J. S. Neibergs[*1], H. L. Neibergs[1], J. F. Taylor[2], C. M. Seabury[3], T. W. Lehenbauer[4], A. L. Van Eenennaam[5] and J. E. Womack[3], [1]Washington State University, Pullman, [2]University of Missouri, Columbia, [3]Texas A&M University, College Station, [4]University of California, Davis, Davis, CA, [5]University of California, Davis*

406 **Development of Selection Indexes for a Beef Cattle Production System from Available EPDs.**
*M. I. Pravia[*1,2], O. Ravagnolo[3] and J. Urioste[2], [1]Instituto Nacional de Investigación Agropecuaria, Montevideo, Uruguay, [2]Facultad de Agronomía. Universidad de la República, Montevideo, Uruguay, [3]Instituto Nacional de Investigación Agropecuaria, Canelones, Uruguay*

407 **Expected Genetic Gain from Newly Developed Selection Indices for South African Holstein Cattle.**
*C. B. Banga[*1] and A. A. Maiwashe[2], [1]Agricultural Research Council, Irene, South Africa, [2]ARC-Animal Production Institute, Irene, South Africa*

408 **Use of Mate Selection Software to Manage Lethal Recessive Conditions in Livestock Populations.**
*A. L. Van Eenennaam[*1] and B. P. Kinghorn[2], [1]University of California, Davis, [2]University of New England, Armidale, Australia*

409 **The Effect of using Genomic Breeding Values to Manage the Loss in Response to Selection Caused by Genotype by Environment Interactions.**
*S. Clark[*1], D. Brown[2] and J. van der Werf[1], [1]University of New England, Armidale, Australia, [2]Animal Genetics and Breeding Unit, Armidale, Australia*

410 **Optimising Current Generation Gains to Supplement Genetic Gain in Commercial Sheep Flocks.**
*J. S. Richards[*1], B. P. Kinghorn[2] and K. D. Atkins[3], [1]University of New England, Australian Cooperative Research Centre for Sheep Industry Innovation, NSW Department of Primary Industries, Orange, Australia, [2]University of New England, Armidale, Australia, [3]Shoal Bay, Australia*

Posters: Breeding of Companion Animals
Chair: Sheila M. Schmutz, University of Saskatchewan

Presentation Time: 10:00 AM – 10:30 AM

790 **Heterotic Components of Carcass and Meat Quality Traits for Crossing Gabali with V-Line Rabbits.**
M. H. Khalil[*], Department of Animal Production. Faculty of Agriculture, Benha University, Moshtohor, 13736, Qalubia, Egypt, Moshtohor, Egypt

791 **Genetic Correlations between Young Horse and Dressage Competition Results in Danish Warmblood Horses.**
*L. Jönsson[*1,2], K. Christiansen[2], M. Holm[3] and T. Mark[1], [1]Department of Clinical Veterinary and Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark, [2]Danish Warmblood Association, Maarslet, Denmark, [3]Knowledge Centre for Agriculture, Skejby, Denmark*

792 **Genome-Wide Association Study Leads to a DNA Assay for Dwarfism in the Friesian Horse Population.**
*A. Schurink[*1], I. Hellinga[2], P. A. J. Leegwater[3], W. Back[4,5], J. W. M. Bastiaansen[1] and B. J. Ducro[1], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]Koninklijke Vereniging "Het Friesch Paarden-Stamboek", Drachten, Netherlands, [3]Department of Clinical Sciences of Companion Animals, Faculty of Veterinary Medicine, Utrecht University, Utrecht, Netherlands, [4]Department of Equine Sciences, Faculty of Veterinary Medicine, Utrecht University, Utrecht, Netherlands, [5]Department of Surgery and Anaesthesiology of Domestic Animals, Faculty of Veterinary Medicine, Ghent University, Merelbeke, Belgium*

793 **Genetic Analysis Of Hunting Traits In Norwegian Elkhounds.**
*M. Wetten[*1] and T. Aasmundstad[2], [1]Geninova, Hamar, Norway, [2]Norsvin, Hamar, Norway*

794 **QTL Mapping for Canine Hip Dysplasia in UK Labrador Retriever.**
*E. Sanchez-Molano[*1], J. A. Woolliams[1], R. Pong-Wong[1], D. N. Clements[1], S. C. Blott[2] and P. Wiener[1], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]University of Nottingham, Leicestershire, United Kingdom*

795 **Genetics of Aggression, Fear and Sociability in Everyday Life of Swedish Dogs.**
H. Eken Asp, P. Arvelius, W. F. Fikse, K. Nilsson and E. Strandberg, Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden*

796 **A Mutation in the SLC45A2 Gene is Associated with Albinism in a Lhasa Apso Dog.**
H. R. Wijesena and S. M. Schmutz, Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK, Canada*

797 **Genetic Diversity and Measures to Reduce Inbreeding in Friesian Horses.**
B. J. Ducro[*1], J. J. Windig[2], I. Hellinga[3] and H. Bovenhuis[1], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands, [3]3Koninklijke Vereniging "Het Friesch Paarden-Stamboek", Drachten, Netherlands*

798 **Model Assessment for Ranking Traits of Criollo Horses Participating in Endurance Trials.**
R. López-Correa[*1], F. Peñagaricano[2], G. Rovere[3] and J. I. Urioste[1], [1]Universidad de la República, Montevideo, Uruguay, [2]University of Wisconsin, Madison, [3]Wageningen University, Wageningen, Netherlands*

Posters: Methods and Tools - Bioinformatics
Chair: Paul Stothard, University of Alberta and James M. Reecy, Iowa State University

Presentation Time: 10:00 AM – 10:30 AM

651 **Evaluation of the BEAGLE Haplotype Reconstruction Algorithm.**
M. H. Ferdosi[*1], J. van der Werf[2], B. Tier[3] and C. Gondro[4], [1]School of Environmental and Rural Science, University of New England, Armidale, Australia, [2]University of New England, Armidale, Australia, [3]Animal Genetics and Breeding Unit, Armidale, Australia, [4]School of Environmental & Rural Science, University of New England, Armidale, Australia*

652 **Sequence Analyses of Bovine PAG-1 Gene.**
M. O. Ozoje[*1], S. O. Durosaro[1], P. E. Esada[1] and S. O. Peters[2], [1]Federal University of Agriculture, PMB 2240, Abeokuta, Nigeria, [2]New Mexico State University, Mount Berry, GA*

653 **Inferring a Core Transcriptional Regulatory Network in Cows.**
S. Strunz[*1], T. Kacprowski[2], N. Melzer[1], J. Friedrich[3] and A. de la Fuente[1], [1]Leibniz-Institute for Farm Animal Biology, Dummerstorf, Germany, [2]University Medicine Greifswald, Greifswald, Germany, [3]University of Rostock, Rostock, Germany*

654 **Copy Number Variation in Brown Swiss Dairy Cattle.**
M. A. Dolezal[1,2], A. Bagnato[1], F. Schiavini[1], E. Santus[3], L. E. Holm[4], C. Bendixen[4] and F. Panitz*[4], [1]Università degli Studi di Milano, Milano, Italy, [2]University of Veterinary Medicine Vienna, Vienna, Austria, [3]ANARB, Italian Brown Cattle Breeders' Association, Bussolengo (VR), Italy, [4]Dept. Molecular Biology and Genetics, Aarhus University, Tjele, Denmark*

655 **Accelerating the Shift to SNP-Based Parentage Verification through Microsatellite Imputation in Ireland.**
M. C. McClure, Irish Cattle Breeding Federation, Bandon, Ireland*

656 **Biotrack Software: Making Genetics a Part of the Whole Farm Picture.**
M. R. McMorris, Beef Improvement Opportunities, Guelph, ON, Canada*

657 **In-Silico Analysis of Missense Mutation of Bovine RYR1 Protein.**
J. D. Leal Gutierrez, Universidad Nacional de Colombia, Bogotá, Colombia*

658 **Approximation of the Structural Forms of the Variances and Covariances between Molecular and Phenotypic Breeding Values.**
S. D. Kachman, University of Nebraska, Lincoln*

Thursday, August 21, 2014

Posters: Genetics of Trait Complexes - Disease Resistance (Group 1)
Chair: Larry A. Kuehn, USDA, ARS, U.S. Meat Animal Research Center

Presentation Time: 9:30 AM – 10:00 AM

516 **Validation of QTL Affecting Resistance to Nematodes in Sheep Identified in a Back-Cross Design in a Pure Breed Population.**
*C. R. Moreno[*1], P. Jacquiet[2,3], F. Bouvier[4], J. Cortet[5,6], A. Blanchard-Letort[5,6], F. Guégnard[5,6], D. Francois[7], Y. Bourdillon[4], C. Grisez[2,3], F. Prevot[2,3], A. Averadère[2,3], J. Demars[7], J. Sarry[7], A. Stella[8], F. Woloszyn[7], K. Canale-Tabet[7], J. Cabaret[5,6], G. Tosser-Klopp[1] and G. Salle[5,6], [1]INRA, UMR1388 GenPhySE, Castanet-Tolosan, France, [2]ENVT-INRA IHAP, Toulouse, France, [3]UMT Santé des petits ruminants, Toulouse, France, [4]INRA de Bourges la Sapinière, Bourges, France, [5]INRA ISP, Tours, France, [6]Université François Rabelais de Tours, Tours, France, [7]INRA GenPhySE UMR1388, Toulouse, France, [8]Fondazione Parco Tecnologico Padano, Lodi, Italy*

517 **Cytokine Gene Expression in Holstein-Friesian and Jersey Calves Infected with Mycobacterium Avium Subsp. Paratuberculosis.**
N. A. Karrow[*], Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada

518 **Genome-Wide Association Mapping of Response to Infection by the Aleutian Mink Disease Virus.**
A. H. Farid[*], K. Gardner, L. F. Butler, P. P. Rupasinghe and S. Myles, Dalhousie University Faculty of Agriculture, Truro, NS, Canada

519 **Genetic Analysis of Receiving Weight, Ultrasound Back Fat, Ultrasound Rib Eye Area, Ultrasound Percent Intramuscular Fat and Bovine Respiratory Disease in Feedlot Cattle.**
*S. E. Speidel[*1], R. R. Cockrum[2], J. Salak-Johnson[3], C. Chase[4], M. G. Thomas[1], R. K. Peel[5] and R. M. Enns[1], [1]Colorado State University, Department of Animal Sciences, Fort Collins, [2]Virginia Polytechnic Institute and State University, Blacksburg, [3]University of Illinois, Urbana, [4]South Dakota State University, Brookings, [5]Colorado State University, Fort Collins*

520 **Association Study of Single Nucleotide Polymorphisms in STAT5A/B with Mastitis Susceptibility in Chinese Holstein Cattle.**
*T. Usman[1], Y. Wang[*1], Y. Yu[2], C. Liu[1], X. Wang[1] and Y. Zhang[1], [1]China Agriculture University, Beijing, China, [2]College of Animal Science and Technology, China Agricultural University, Beijing, China*

521 **Genetic Parameters and Genomic Markers Associated with Mastitis Resistance in Dairy Sheep.**
*A. Psifidi[1,2], G. Bramis[2], G. Arsenos[2] and G. Banos[*1,2,3], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]Faculty of Veterinary Medicine, Aristotle University of Thessaloniki, Thessaloniki, Greece, [3]Scotland's Rural College, Edinburgh, United Kingdom*

522 **The Association Between Sire Estimated Breeding Value for Antibody-Mediated Immune Response (AMIR) and Offspring AMIR Phenotype.**
*M. Emam[*1], M. A. Paibomesai[1], K. A. Thompson-Crispi[2], F. S. Schenkel[3], F. Miglior[2], M. Sargolzaei[4] and B. Mallard[2], [1]University of Guelph, Guelph, ON, Canada, [2]Center for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [3]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [4]The Semex Alliance, Guelph, ON, Canada*

523 **Search of Genomic Regions Influencing Faecal Egg Count, as an Indicator of Resistance to Gastrointestinal Nematode Infections, Based on the Analysis of the OvineSNP50 BeadChip.**
*M. Atlija[1], J. J. Arranz[1], M. Martinez-Valladares[2] and B. Gutierrez-Gil[*1], [1]Universidad de León, León, Spain, [2]Instituto de Ganadería de Montaña. CSIC-ULE, León, Spain*

524 **Genome-Wide Association Analyses for Mastitis in Canadian Holsteins.**
*D. A. Grossi[*1], M. K. Abo-Ismail[1,2], A. Koeck[1], S. P. Miller[1,3,4,5], P. Stothard[4], G. S. Plastow[4], F. Miglior[1,6], S. S. Moore[7], M. Sargolzaei[1,8] and F. S. Schenkel[1], [1]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [2]Animal and Poultry Science, Damanhour University, Damanhour, Egypt, [3]AgResearch, Invermay, Mosgiel, New Zealand, [4]University of Alberta, Edmonton, AB, Canada, [5]University of Queensland, Centre for Animal Science, QAAFI, St. Lucia, Australia, [6]Canadian Dairy Network, Guelph, ON, Canada, [7]The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, St Lucia, Australia, [8]The Semex Alliance, Guelph, ON, Canada*

525 **Goodness of Fit Comparisons among Five Bayesian Models in Genome-Wide Association of Tick Resistance in Brazilian Hereford and Braford Beef Cattle.**
*B. P. Sollero[*1,2], C. G. Gomes[3], V. M. Roso[4], R. H. Higa[5], M. J. Yokoo[3], L. L. Cardoso[6], A. R. Caetano[7] and F. F. Cardoso[3], [1]Embrapa Southern Region Animal Husbandry, Bagé, Bagé, Brazil, [2]Coordination for the Improvement of Higher Level Personnel (CAPES/PNPD), Brasília, Brazil, [3]Embrapa Southern Region Animal Husbandry, Bage, Brazil, [4]Gensys Consultores Associados, Porto Alegre, Brazil, [5]Embrapa Informática Agropecuária, Campinas, Brazil, [6]Embrapa Southern Region Animal Husbandry, Bagé, Brazil, [7]Embrapa Genetic Resources and Biotecnology, Brasilia, Brazil*

526 **Genetic Sensitivity to Pathogenesis: Response to E. maxima Challenge in High and Low Antibody Selection Lines of Chickens.**
*R. M. Lewis[*1,2], P. B. Siegel[3] and I. Kyriazakis[4], [1]University of Nebraska, Lincoln, [2]Virginia Tech, Blacksuburg, VA, [3]Virginia Polytechnic Institute and State University, Blacksburg, [4]Newcastle University, Newcastle upon Tyne, United Kingdom*

527 **Identification and Characterization of Candidate DNA Markers Associated with Primary Antibody Response to Sheep Red Blood Cells in Chicken.**
*T. Geng[1], E. Smith[*2] and J. Xu[2], [1]Yangzhou University, Jiangsu, China, [2]Virginia Tech, Blacksburg*

528 **No Association Between *β-Defensin 103B (DEFB103B)* Single Nucleotide Polymorphisms (SNPs) or Haplotypes and *Staphylococcus aureus* Mastitis in Holstein Cattle.**
*A. Mirabzadeh-Ardakani[*1], P. J. Griebel[2] and S. M. Schmutz[1], [1]Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK, Canada, [2]Vaccine and Infectious Disease Organization, University of Saskatchewan, Saskatoon, SK, Canada*

529 **Variation of Lactoferrin and Total Immunoglobulin G Concentrations in Colostrum from Canadian Holstein Dairy Cattle Classified as High, Average or Low Immune Responders.**
*K. Fleming[*1], K. A. Thompson-Crispi[1,2], D. C. Hodgins[1], F. Miglior[2,3] and B. Mallard[1,2], [1]Dept Pathobiology, University of Guelph, Guelph, ON, Canada, [2]Center for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [3]Canadian Dairy Network, Guelph, ON, Canada*

530 **SSC4 WUR Genotype and Vaccination Effect on Nursery Pigs Co-infected with PRRSV and PCV2b.**
*M. S. Herrmann[*1], M. C. Niederwerder[2], N. V. L. Serão[1], M. A. Kerrigan[2], R. R. R. Rowland[2], J. K. Lunney[3] and J. C. M. Dekkers[1], [1]Iowa State University, Ames, [2]Kansas State University, Manhattan, [3]USDA, ARS, BARC, APDL, , Beltsville, MD*

531 **Analysis Of Biological Pathways Associated With Immune-capacity Traits In Pig.**
*T. Okamura[*1,2], Y. Takahagi[3], T. Matsumoto[4], H. Uenishi[4], K. Suzuki[2] and M. Satoh[1], [1]NARO Institute of Livestock and Grassland Science, Tsukuba, Japan, [2]Tohoku University, Aoba-ku, Sendai City, Japan, [3]Nippon Meat Packers, Inc. R&D Center, Tsukuba, Japan, [4]National Institute of Agrobiological Sciences, Tsukuba, Japan*

Posters: Genetics of Trait Complexes - Feed Intake and Efficiency (Group 1)
Chair: Donagh P. Berry, Teagasc, Moorepark

Presentation Time: 9:30 AM – 10:00 AM

552 **Feed Restriction and Subsequent Re-Alimentation Affect the Expression of Oxidative Phosphorylation Genes in Skeletal Muscle of Holstein Friesian Bulls.**
*K. Keogh[*1,2], D. A. Kenny[2], A. K. Kelly[1], P. Cormican[2] and S. M. Waters[2], [1]School of Agriculture and Food Science, University College Dublin, Dublin, Ireland, [2]Teagasc Grange, Meath, Ireland*

553 **Systems Genetics Investigations for Feed Intake, Feed Efficiency and Performance in Nellore (Bos indicus) Cattle.**
*M. H. A. Santana[*1], H. N. Kadarmideen[2], S. D. Pant[2], P. A. Alexandre[1], G. A. Oliveira Junior[3], R. C. Gomes[4], Y. T. Utsunomiya[5], H. H. Neves[6], J. F. Garcia[7], H. Fukumasu[1] and J. B. Sterman Ferraz[8], [1]NAP-GMABT/FZEA/University of Sao Paulo, Pirassununga, Brazil, [2]Department of Clinical Veterinary and Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark, [3]University of São Paulo, Pirassununga, Brazil, [4]CNPGC/EMBRAPA, Campo Grande, Brazil, [5]UNESP Univ Estadual Paulista, Jaboticabal, Brazil, [6]Faculdade de Ciências Agrárias e Veterinárias – UNESP, Jaboticabal, Brazil, [7]UNESP Univ Estadual Paulista, Araçatuba, Brazil, [8]University of Sao Paulo, Pirassununga, Brazil*

554 **Genetic Parameters and Accuracy of Recording Dry Matter Intake in First Parity Holstein-Friesian Cows.**
*C. I. V. Manzanilla Pech[*1,2,3], R. F. Veerkamp[1,2], M. P. L. Calus[1], J. E. Pryce[4] and Y. de Haas[1], [1]Animal Breeding and Genomics*

Centre, Wageningen UR Livestock Research, Wageningen, Netherlands, [2]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [3]National Research Institute of Forestry, Agriculture and Livestock, Mococha, Yucatan, Mexico, [4]Biosciences Research Division, Department of Environment and Primary Industries, Victoria, Australia

555 **Positional Candidate Genes for Residual Intake and Gain in Nelore Beef Cattle.**
*P. S. N. Oliveira[*1], A. S. M. Cesar[2], M. L. Do Nascimento[3], M. M. Souza[1], R. R. Tullio[4], D. P. Lanna[5], G. B. Mourão[5], J. M. Reecy[6], D. J. Garrick[6], M. A. Mudadu[4], L. L. Coutinho[3] and L. C. Almeida Regitano[7], [1]Federal University of São Carlos, São Carlos, Brazil, [2]LZT/ESALQ/University of Sao Paulo, Piracicaba, Brazil, [3]Universidade de São Paulo/Esalq, Piracicaba, Brazil, [4]Embrapa Pecuária Sudeste, São Carlos, Brazil, [5]University of São Paulo, Piracicaba, Brazil, [6]Iowa State University, Ames, [7]Embrapa Southeast Livestock, Sao Carlos, Brazil*

556 **Identification of Genomic Regions Associated with Lactation Performance in Yorkshire Sows.**
*D. M. Thekkoot[*1], R. A. Kemp[2], M. F. Rothschild[1], G. S. Plastow[3] and J. C. M. Dekkers[1], [1]Iowa State University, Ames, [2]Genesus Inc, Lethbridge, AB, Canada, [3]University of Alberta, Edmonton, AB, Canada*

557 **Lifecyle Biological Efficiency of Mice Selected for Heat Loss.**
*A. Bhatnagar[*1] and M. K. Nielsen[2], [1]University of Nebraska, Lincoln, [2]University of Nebraska, Lincoln*

558 **Efficiency of Weight and Retail Product Gain of Brahman, Boran, Belgian Blue, Piedmontese, and Hereford or Angus Sired Crossbred Steers to Alternative Endpoints.**
L. V. Cundiff[*], USDA-ARS, U.S. MARC, Clay Center, NE

559 **Feed Intake Variation in Crossbred Lambs Supplemented with Spirulina.**
*B. W. Holman[*1] and A. E. Malau-Aduli[2], [1]NSW Dept of Primary Industries, COWRA, Australia, [2]University of Tasmania, Hobart, Tasmania, Australia*

560 **Identification of Candidate Genes in Bovine Chromosome 21 for Feed Efficiency in Nellore Cattle using Association Analysis and Linkage Disequilibrium Approach.**
P. A. Alexandre[*], M. H. A. Santana, J. P. Eler, H. Fukumasu, G. A. Oliveira Jr. and J. B. S. Ferraz, NAP-GMABT/FZEA/University of Sao Paulo, Pirassununga, Brazil

561 **Selection for Postweaning Weight and Residual Feed Intake in Nelore Cattle.**
M. E. Z. Mercadante[*], T. M. Ceacero, M. Morelli, J. N. S. G. Cyrillo, F. M. Monteiro and R. H. Branco, Centro APTA Bovinos de Corte, Instituto de Zootecnia, Sertãozinho-SP, Brazil

562 **Genetic Modelling of Feed Intake in Rabbits.**
I. David[*], H. Garreau and J. Ruesche, INRA UMR1388, F-31326 Castanet-Tolosan, France

563 **Mapping of Quantitative Trait Loci Affecting Feed Efficiency in Laying Common Ducks.**
*C. Marie-Etancelin[*1], B. Basso[1], K. Feve[2], F. Vignoles[1], P. Morganz[3] and A. Vignal[1], [1]INRA UMR 1388 GenPhySE, Castanet-Tolosan, France, [2]INRA UMR1388, F-31326 Castanet-Tolosan, France, [3]INRA UE 89 UEPFG, Benquet, France*

564 **Estimation and Validation of Indirect Genetic Effects for Average Daily Gain in Two Purebred Sire Lines.**
*N. Duijvesteijn[*1], E. F. Knol[2] and P. Bijma[3], [1]TOPIGS Research Center IPG B.V., Beuningen, Netherlands, [2]TOPIGS Research Center IPG, Beuningen, Netherlands, [3]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands*

565 **Estimation of Genetic Parameters for Growth and Feed Efficiency Traits in Two Commercial Lines.**
H. Garreau[*], INRA, Castanet-Tolosan, France

566 **Variability of Organic Matter Digestibility within Lactation and across Cows based on NIRS Scans from Fecal Samples.**
*T. Mehtiö[*1], M. Rinne[1], L. Nyholm[2], A. Sairanen[3], T. Pitkänen[1], E. A. Mäntysaari[1] and M. H. Lidauer[1], [1]MTT Agrifood Research Finland, Jokioinen, Finland, [2]Valio Ltd., Helsinki, Finland, [3]MTT Agrifood Research Finland, Maaninka, Finland*

567 **Genetic Basis of Digestibility in Nursery Pigs under PRRSV Infection.**
*L. C. Hardie[*1], N. V. L. Serão[1], R. R. R. Rowland[2], J. F. Patience[1], J. C. M. Dekkers[1] and N. K. Gabler[1], [1]Iowa State University, Ames, [2]Kansas State University, Manhattan*

Posters: Genetics of Trait Complexes - Disease Resistance (Group 2)
Chair: Larry A. Kuehn, USDA, ARS, U. S. Meat Animal Research Center

Presentation Time: 10:00 AM – 10:30 AM

532 **Predicting MHC Haplotypes from High-Density SNP Genotypes in Pigs.**
*J. Dunkelberger[*1], S. Ho[2], A. Hess[1], N. V. L. Serão[1], J. K. Lunney[3] and J. C. M. Dekkers[1], [1]Iowa State University, Ames, [2]Gift of Life Michigan, Ann Arbor, MI, [3]USDA, ARS, BARC, APDL, , Beltsville, MD*

533 **The Homology Modeling Study of the Bovine ì-calpain Inhibitor-Binding Domains.**
H. H. Chai[*], Animal Genome & Bioinformatics Division, National Institute of Animal Science, Suwon, South Korea

534 **Genetic and Non-Genetic Indirect Effects for Bite Mark Traits in Group Housed Mink.**
*S. W. Alemu[*1,2], P. Berg[1,3], L. Janss[1], S. H. Moller[4] and P. Bijma[5], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Animal Breeding and Genomics Center, Wageningen University, Wageningen, Netherlands, [3]Nordic Genetic Resource Centre, Ås, Norway, [4]Department of Animal Science Epidemiology and management, Aarhus University, Tjele, Denmark, [5]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands*

535 **Genetic Relationship of Eye Infection and Grading Traits in Finnish Blue Fox.**
R. Kempe[*] and I. Strandén, MTT Agrifood Research Finland, Biotechnology and Food Research, Jokioinen, Finland

536 **Genetic Analysis of Elevated Mastitis Risk Based on Mastitis Indicator Data.**
L. P. Sørensen[*], Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark

537 **Divergent Transcriptome Signature in Blood of Cows Exposed to Vaccination Pre- or Postpartum.**
R. Weikard[*], W. Demasius, F. Hadlich and C. Kühn, Leibniz Institute for Farm Animal Biology, Dummerstorf, Germany

538 **Using Transcriptome-Wide Analysis of Constitutive Hepatic Gene Expression to Identify Genetic Defects in Porcine Innate Immunity.**
*H. N. Snyman[1], J. D. Hammermueller[1], K. J. Jagt[1], J. Squires[2], A. M. Hayes[1] and B. N. Lillie[*1], [1]Department of Pathobiology, University of Guelph, Guelph, ON, Canada, [2]Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada*

539 **Genetic Parameters of Immune Traits in Dairy Cattle.**
*S. J. Denholm[*1], T. N. McNeilly[2], G. Banos[1], M. P. Coffey[3], G. C. Russell[2], A. Bagnall[1], M. C. Mitchell[2] and E. Wall[3], [1]Scotland's Rural College, Edinburgh, United Kingdom, [2]Moredun Research Institute, Edinburgh, United Kingdom, [3]SRUC, Edinburgh, United Kingdom*

540 **Epigenetic Differences in IFN and IL-4 Promoter Regions of Dairy Cows Identified With Type 1 and 2 Immune Response Bias.**
*M. A. Paibomesai[*1] and B. Mallard[2,3], [1]University of Guelph, Guelph, ON, Canada, [2]Dept Pathobiology, University of Guelph, Guelph, ON, Canada, [3]Center for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada*

541 **Construction of a Reporter Mycobacterium avium subsp. paratuberculosis (Map) Strain and Infection of Monocyte-Derived Macrophages from Cows Homozygous for SNP -298 A>G in the Macrophage Migration Inhibitory Factor (MIF) Gene.**
Q. You[*], University of Guelph, Guelph, ON, Canada

542 **Genetics of Susceptibility to Bovine Viral Diarrhea, Infectious Bovine Respiratory Disease, and Liver Fluke in Cattle.**
*J. McClure[*1], A. Cromie[2], R. Sayers[3], D. Graham[4], N. Byrne[5] and D. P. Berry[6], [1]Irish Cattle Breeding Federation, Bandon, Ireland, [2]Irish Cattle Breeding Federation, Cork, Ireland, [3]Teagasc, Animal and Grassland Research and Innovation Center, Moorepark, Fermoy, Co. Cork, Ireland, [4]Animal health Ireland, Carrick-on-Shannon, Ireland, [5]Teagasc, Fermoy, Ireland, [6]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland*

543 **Genetic Parameters and Effects for a Major QTL of Piglets Experimentally Infected with a Second Porcine Reproductive and Respiratory Syndrome Virus.**
*A. Hess[*1], N. Boddicker[2], R. R. R. Rowland[3], J. K. Lunney[4], G. S. Plastow[5] and J. C. M. Dekkers[1], [1]Iowa State University, Ames, [2]Genesus, Oakville, MB, Canada, [3]Kansas State University, Manhattan, [4]USDA, ARS, BARC, APDL, Beltsville, MD, [5]University of Alberta, Edmonton, AB, Canada*

544 **Identification and Mapping of a Bovine MHC Classical Class I Locus Missing from the Reference Assembly.**
*E. D. Downey[*1], R. D. Schnabel[2], J. F. Taylor[2] and L. C. Skow[1], [1]Texas A&M University, College Station, [2]University of Missouri, Columbia*

545 **Transcriptomic Analysis of Lung from Pigs Exhibiting Differential Susceptibility to Influenza.**
*J. M. Wilkinson[*1], G. Foxcroft[1], G. Plastow[1] and J. C. S. Harding[2], [1]University of Alberta, Edmonton, AB, Canada, [2]University of Saskatchewan, Saskatoon, SK, Canada*

546 **Genetic Parameters of Tick-Infestation on Lambs of the Norwegian White Sheep Breed.**
L. Grøva[*], Bioforsk, Tingvoll, Norway

547 **Estimation of (Co)variance Components for Body Weight and Survival in the Presence of a White Spot Syndrome Virus (WSSV) Natural Outbreak in the Pacific White Shrimp Penaeus (Litopenaeus) vannamei.**
*A. Caballero-Zamora[*1], H. H. Montaldo[2], G. R. Campos-Montes[1,3], E. Cienfuegos-Rivas[4], A. Martínez-Ortega[5] and H. Castillo-Juárez[1], [1]Universidad Autónoma Metropolitana, DF, Mexico, [2]Universidad Nacional Autónoma de México, DF, Mexico, [3]Maricultura del Pacífico, Mazatlán, Mexico, [4]Universidad Autónoma de Tamaulipas, Ciudad Victoria, Tamaulipas, Mexico, [5]Maricultura del Pacífico S.A. de C.V., México, Mexico*

Posters: Genetics of Trait Complexes - Feed Intake and Efficiency (Group 2)
Chair: Donagh P. Berry, Teagasc, Moorepark

Presentation Time: 10:00 AM – 10:30 AM

568 **Estimation of Additive Genetic and Maternal Genetic Effects in Mice Selected for High and Low Oxygen Consumption.**
K. Suzuki[*], Tohoku University, Aoba-ku, Sendai City, Japan

569 **Genetic Structure of Quantitative Traits for Effective Feeding during the Growing to Finishing Phases in Landrace Pigs.**
*M. Taniguchi[*1], A. Arakawa[1], K. Hirose[2], S. Nikaido[3], T. Matsumoto[1], A. Ishida[4], T. Ito[2], K. Fukawa[2] and S. Mikawa[1], [1]National Institute of Agrobiological Sciences, Tsukuba, Japan, [2]Zen-Noh Central Research Institute for Feed and Livestock, Kamishihoro, Japan, [3]Zen-Noh Livestock Co. Ltd, Shizukuishi, Japan, [4]NARO Institute of Livestock and Grassland Science, Tsukuba, Japan*

570 **Preliminary Investigation into Genetic Parameters for Feedlot Traits of Angus Cattle in South Africa.**
J. Hendriks[*], Agricultural Research Council, Pretoria, South Africa; University of the Free State, Bloemfontein, South Africa

571 **Whole Genome Characterization and Associations Studies in Two Divergent Pig Lines Selected on Residual Feed Intake.**
*J. Riquet[*1], Y. Labrune[1], K. Feve[1], Y. Billon[2] and H. Gilbert[1], [1]INRA UMR1388, F-31326 Castanet-Tolosan, France, [2]INRA UE1372, F-17700 Surgères, France*

572 **Prediction of Body Weight of Primiparous Dairy Cows Throughout Lactation.**
*M. L. Vanrobays[*1], J. Vandenplas[1,2], H. Hammami[1,2] and N. Gengler[1], [1]University of Liege, Gembloux Agro-Bio Tech, Gembloux, Belgium, [2]National Fund for Scientific Research, Brussels, Belgium*

573 **Variation among Dairy Cows in Rumen Liquid Fermentation Characteristics.**
*J. Lassen[1], P. Lovendahl[2], L. Kristensen[*3], Z. Zhu[4], O. Højberg[5], M. Poulsen[6] and S. J. Noel[5], [1]Center of Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Aarhus, Denmark, [2]Centre for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [3]Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [4]Department of Animal Science, Aarhus University, Tjele, Denmark, [5]Dept. Animal Science, Aarhus University, Tjele, Denmark, [6]Dept. Animal Science, aarhus University, Tjele, Denmark*

574 **The Value of Group Records in Predicting Breeding Values for Individual Feed Intake in Pigs.**
*J. P. Sanchez[*1], M. Piles[1], M. Tulsa[2], J. Reixach[3] and R. Quintanilla[1], [1]IRTA, Caldes de Montbui, Spain, [2]IRTA, Monells, Spain, [3]Selección Batallé, Riudarenes, Spain*

575 **Genetic Parameters for Dry Matter Intake at Different Lactation Stages among Primiparous Holstein, Jersey and Red Cows.**
B. LI[*], Swedish University of Agricultural Sciences, Uppsala, Sweden

576 **Genetic Variation in Efficiency to Deposit Lean Meat and Fat in Norwegian Landrace Pigs.**
*K. H. Martinsen[*1], J. Ødegård[2], D. Olsen[3] and T. H. E. Meuwissen[1], [1]Norwegian University of Life Sciences, Ås, Norway, [2]AquaGen, Ås, Norway, [3]Norsvin, Ås, Norway*

577 **Residual Feed Intake in Beef Cattle; Genes, Metabolites and Beyond.**
*B. K. Karisa[*1], J. M. Thomson[2] and G. S. Plastow[1], [1]University of Alberta, Edmonton, AB, Canada, [2]Montana State University, Bozeman, MT*

578 **Genomic Selection for Feed Intake and Weight Gain Assuming Different Prior Distributions in Nellore Beef Cattle.**
*F. M. Rezende[*1], M. H. A. Santana[2], G. A. Oliveira Junior[2], F. Baldi[3], A. S. M. Cesar[4], E. C. Mattos[2], J. B. S. Ferraz[2] and N. Ibáñez-Escriche[5], [1]Federal University of Uberlandia, Patos de Minas, Brazil, [2]NAP-GMABT/FZEA/University of Sao Paulo, Pirassununga, Brazil, [3]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil, [4]University of Sao Paulo, Piracicaba, Brazil, [5]IRTA - Cataluña, Lleida, Spain*

579 **Rumen Microbial Taxa and By-products Associated with Feed Efficiency in Sheep.**
*K. M. Cammack[*1], M. Ellison[2], G. C. Conant[3], W. R. Lamberson[3] and K. J. Austin[1], [1]Department of Animal Science, University of Wyoming, Laramie, WY, [2]University of Wyoming, Laramie, WY, [3]University of Missouri, Columbia*

580 **Genetics of Alternative Definitions of Feed Efficiency in Grazing Lactating Dairy Cows.**
*A. M. Hurley[*1,2], S. McParland[2], E. Kennedy[2], E. Lewis[2], M. O'Donovan[2], N. Lopez-Villalobos[1] and D. P. Berry[3], [1]Massey University, Palmerston North, New Zealand, [2]Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [3]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland*

581 **Functional Cluster Analysis of Genome Wide Associations for Energy Balance for Cows in Experimental Herds in Four European Countries.**
*A. Tolkamp[*1], M. P. Coffey[2], E. Wall[2], D. P. Berry[3], E. Strandberg[4] and R. F. Veerkamp[5], [1]Scotlands Rural College (SRUC), Edinburgh, United Kingdom, [2]SRUC, Edinburgh, United Kingdom, [3]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [4]Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden, [5]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands*

582 **Increased Fat EBVs Reduce Need for Supplementary Feeding.**
*W. S. Pitchford[*1] and S. F. Walkom[2], [1]School of Animal and Veterinary Sciences, The University of Adelaide, Roseworthy, Australia, [2]School of Animal and Veterinary Sciences, University of Adelaide, Roseworthy SA 5351, Australia*

583 **Establishing the Relationship Between Feed Efficiency and Maternal Traits in New Zealand Sheep.**
P. L. Johnson[*], AgResearch, Mosgiel, New Zealand

Posters: Genetics of Trait Complexes - Disease Resistance (Group 3)
Chair: Larry A. Kuehn, USDA, ARS, U. S. Meat Animal Research Center

Presentation Time: 3:00 PM – 3:30 PM

548 **Expression of TLR2 Pattern Recognition Receptor on Mononuclear Cells of Dairy Cattle Ranked using Estimated Breeding Values (EBV) of Adaptive Immune Response Traits.**
*L. C. Wagter-Lesperance[*1], D. C. Hodgins[2], M. Emam[1], M. A. Paibomesai[1] and B. Mallard[3], [1]University of Guelph, Guelph, ON, Canada, [2]Dept Pathobiology, University of Guelph, Guelph, ON, Canada, [3]Center for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada*

549 **Major Histocompatibility Complex Plays a Role in Survival Kinetics of Chicken infected by Marek's Disease Virus.**
*M. H. Pinard-van der Laan[*1], B. Bed'Hom[2], N. Bruneau[2], O. Chazara[3] and B. Besbes[4], [1]INRA, UMR1313 GABI, Jouy-en-Josas, France, [2]INRA UMR1313 GABI, Jouy-en-Josas, France, [3]Department of Pathology, University of Cambridge, Cambridge, United Kingdom, [4]FAO, Roma, Italy*

550 **Predicting Susceptibiliy to Johne's Disease in New Zealand Dairy Cattle.**
R. G. Sherlock[*], Livestock Improvement Corporation, Hamilton, New Zealand

551 **Genetic Parameters for Natural Antibodies in a Chicken Layer Line.**
*T. V. Berghof[*1,2], J. J. van der Poel[1], J. A. Arts[2], S. van Engelen[1], H. K. Parmentier[2] and H. Bovenhuis[1], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]Adaptation Physiology Group, Wageningen University, Wageningen, Netherlands*

Posters: Genetics of Trait Complexes - Reproduction (Group 1)
Chair: Jennie E. Pryce, Department of Environment and Primary Industries

Presentation Time: 3:00 PM – 3:30 PM

625 **Polymorphisms in TOX and NCOA2 Genes and their Associations with Reproductive Traits in Cattle.**
G. M. de Camargo[*], State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil

626 **Genetic Parameters of Atypical Progesterone Profiles in Holstein-Friesian Cows using Data from Four European Experimental Research Herds.**
*S. Nyman[*1], K. Johansson[1,2], D. J. D. Koning[1], D. P. Berry[3], R. F. Veerkamp[4], E. Wall[5] and B. Berglund[1], [1]Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden, [2]Växa Sverige, Uppsala, Sweden, [3]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [4]Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands, [5]SRUC, Edinburgh, United Kingdom*

627 **Bayesian Estimates of Genetic Parameters for Reproductive Traits in Nellore Cows Raised on Pasture in the Tropics.**
*F. B. Lopes[1], C. U. Magnabosco[*1], M. M. S. Mamede[2], L. C. Moreira[2], F. M. Souza[2], M. G. Narcizo[3], R. B. Lôbo[4], G. J. M. Rosa[5] and R. D. Sainz[1], [1]Embrapa Cerrados, Brasília, Brazil, [2]Federal University of Goiás, Goiânia, Brazil, [3]Embrapa, Santo Antônio de Goiás, Brazil, [4]Brazilian Society of Breeders and Researchers, Ribeirão Preto, Brazil, [5]University of Wisconsin, Madison*

628 **Assessment of Genetic and Non-Genetic Factors Related to Survival Probabilities of Farmed White-Tailed Deer Neonates.**
M. Parra-Bracamonte[*], Centro De Biotecnologia Genomica - Instituto Politecnico Nacional, Reynosa, Mexico

629 **Estrus Traits Derived from Activity Measurements are Heritable and Closely Related to Conventional Estrus Traits.**
*A. Ismael[*1,2], M. Kargo[3,4], A. Fogh[4], E. Strandberg[2] and P. Lovendahl[1], [1]Centre for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden, [3]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [4]Knowledge Center for Agriculture, Aarhus, Denmark*

630 **Genome-Wide Scan for Reproductive Traits of Beef Heifers using High Density SNP Panels.**
*A. Michenet[*1], F. Phocas[2], R. Saintilan[3] and E. Venot[3], [1]MIDATEST, Soual, France, [2]INRA, UMR1313 GABI, Jouy-en-Josas, France, [3]INRA UMR 1313 GABI, Jouy-en-Josas, France*

631 **Effect of Selection for Residual Variance of Litter Size on Hematology Parameters as Immunology Indicators in Rabbits.**
*M. J. Argente[1], M. D. L. L. Garcia[*1] and A. Blasco[2], [1]Universidad Miguel Hernández de Elche, Orihuela, Spain, [2]Universidad Politecnica De Valencia, Valencia, Spain*

632 **Genetic Control of the Environmental Variance for Birth Weight in a Divergent Selection Experiment in Mice.**
N. Formoso-Rafferty, J. P. Gutiérrez García[*], O. Lizarraga, M. Pérez-Cabal and I. Cervantes, University Complutense of Madrid, Madrid, Spain

633 **Additive Genetic, Non-additive Genetic and Permanent Environmental Effects for Female Reproductive Performance in Seasonal Calving Dairy Cows.**

*M. M. Kelleher[*1,2], F. Buckley[1], R. Evans[3] and D. P. Berry[1], [1]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [2]School of Agriculture and Food Science, UCD, Dublin, Ireland, [3]Irish Cattle Breeding Federation, Co.Cork, Ireland*

634 **Genetic Control of Ovulation Rate in Maine-Anjou Cattle.**
*A. Vinet[*1], J. L. Touze[2], J. Sapa[1], L. Bodin[3], S. Fabre[3] and F. Phocas[1], [1]INRA, UMR1313 GABI, Jouy-en-Josas, France, [2]INRA, UMR0085 PRC, Nouzilly, France, [3]INRA, UMR1388 GenPhySE, Castanet-Tolosan, France*

635 **Impact of Long Term Selection on Reproductive Efficiency in Linebred Rambouillet.**
J. D. Swartz, C. J. Yeoman, J. G. Berardinelli and J. M. Thomson[*], Montana State University, Bozeman, MT

636 **Genome-Wide Association of Age at First Calving in Nelore Cattle using Phenotypes from Genotyped and Ungenotyped Animals.**
*T. P. de Melo[*1], R. Carvalheiro[2], L. Takada[1], F. S. B. Rey[1], H. N. de Oliveira[1], M. M. Dias[1] and L. G. Albuquerque[3], [1]Sao Paulo State University (UNESP), Jaboticabal, Brazil, [2]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil, [3]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil*

Posters: Swine Breeding (Group 1)
Chair: Graham S. Plastow, University of Alberta

Presentation Time: 3:00 PM – 3:30 PM

916 **Assessment of Genetic Variation among Domestic and Wild Pigs (Sus scrofa) across its Range: An Improved Phylogeography to Understand the Pig Domestication.**
*A. Kumar[*1] and S. K. Gupta[2], [1]Wildlife Institute of India, Dehradun, India, Dehradun, India, [2]Wildlife Institute of India, Dehradun, India, Dehra Dun, India*

917 **Osteochondrosis in Duroc Pigs Scored by Computed Tomography; Heritabilities based on Genomic and Pedigree Relationship Matrices.**
*T. Aasmundstad[*1,2], E. Grindflek[1], Nordbø[1], J. Kongsro[1] and O. Vangen[2], [1]Norsvin, Hamar, Norway, [2]Norwegian University of Life Sciences, Ås, Norway*

918 **Gene Copy Number Detection of AADAT and ZNF622 across Diverse Pig Breeds.**
H. Wang[*], China Agricultural Universtiy, Beijing, China

919 **Genetic Parameter Estimates for Reproductive, Growth and Longevity Traits in Alentejano Pigs Raised Extensively.**
*L. T. Gama[*1], F. David[2] and H. Paixim[2], [1]FMV - University of Lisbon, Lisbon, Portugal, [2]ACEPA, Évora, Portugal*

920 **Validation of Repeatability Models in Genetic Evaluation of Reproductive Traits in Pigs.**
*S. Andonov[*1], V. Vukovic[1], A. Uzunov[1] and A. Mijakova Murdzeva[2], [1]Faculty of Agricultural Sciences and Food, Skopje, Macedonia, [2]Agria Grup, Veles, Macedonia*

921 **Identification of Signatures of Selection for Intramuscular Fat in Two Duroc Populations.**
*E. S. Kim[*1], R. Ros-Freixedes[2], R. N. Pena[2], T. J. Baas[1], J. Estany[2] and M. F. Rothschild[1], [1]Iowa State University, Ames, [2]Universitat de Lleida, Lleida, Spain*

922 **Anaylsis of Single Nucleotide Polymorphisms (SNPs) in Stearoyl-CoA Desaturase (SCD) Gene Promoter Region of Six Pig Breeds.**
*A. Hasegawa[*1], D. Taniguchi[2], I. Matsuno[1] and Y. Mizoguchi[1], [1]Meiji University, Kawasaki, Japan, [2]Meiji University, kawasaki, Japan*

923 **Genome-Wide Association Studies on Piglet Splay leg Syndrome.**
*X. Hao[*1,2], G. S. Plastow[2], C. Zhang[2], Z. Hu[2], H. Yang[3], W. Li[3], Z. Wang[3], Z. Wang[2] and S. Zhang[1], [1]Huazhong Agricultural University, Wuhan, China, [2]University of Alberta, Edmonton, AB, Canada, [3]Wuhan Tianzhong Stock Corporation, Wuhan, China*

924 **Genome-Wide Association Studies (GWAS) Identify a QTL Close to PRKAG3 Affecting Meat pH and Colour in Crossbred Commercial Pig Lines.**
*C. Zhang[*1], Z. Wang[1], H. Bruce[1], R. A. Kemp[2], P. Charagu[3], Y. Miar[1], T. Yang[1] and G. S. Plastow[1], [1]University of Alberta, Edmonton, AB, Canada, [2]Genesus Inc, Lethbridge, AB, Canada, [3]Hypor Inc, Regina, SK, Canada*

925 **Strategies to Implement Genomic Selection in Pig Breeding using Very Low Marker Density.**
*P. Stratz[*1], R. Wellmann[2] and J. Bennewitz[2], [1]Institute of Animal Husbandry and Breeding, University Hohenheim, Hohenheim, Germany, [2]Institute of Animal Husbandry and Breeding, University Hohenheim, Stuttgart, Germany*

926 **Reliability of Genomic Selection of Reproduction Traits in Finnish Yorkshire Pig Breed.**
*P. Uimari[*1], M. L. Sevon-Aimonen[2] and T. Serenius[3], [1]University of Helsinki, Helsinki, Finland, [2]MTT Agrifood Research Finland, Jokioinen, Finland, [3]Figen Ltd, Seinäjoki, Finland*

927 **Crossbreeding Effects and Genetic Parameters on Piglet Survival from Three Iberian Strains.**
*N. Ibanez-Escriche[*1], L. Varona[2], E. Magallón[3] and J. L. Noguera[1], [1]IRTA, Lleida, Spain, [2]Universidad de Zaragoza, Zaragoza, Spain, [3]Inga Food, Zaragoza, Spain*

928 **Genetic and Epigenetic Analysis of FUT1 (fucosyltransferase 1) Transgenic Cloned Yorkshire Piglets.**
*Y. Yu[*1] and Y. Dong[2], [1]College of Animal Science and Technology, China Agricultural University, Beijing, China, [2]China Agricultural University, Beijing, China*

929 **Genome-Wide Association Study for Intramuscular Fat Content and Composition in Duroc Pigs.**
*R. Ros-Freixedes[*1], S. Gol[1], R. N. Pena[1], M. Tor[1], J. C. M. Dekkers[2] and J. Estany[1], [1]Universitat de Lleida, Lleida, Spain, [2]Iowa State University, Ames*

930 **Genetic Correlations of Intramuscular Fat and Oleic Acid Content among Muscles and with Subcutaneous Fat in Duroc Pigs.**
*R. Ros-Freixedes[1], E. Henríquez[1], J. Reixach[2], M. Tor[1] and J. Estany[*1], [1]Universitat de Lleida, Lleida, Spain, [2]Selección Batallé, Riudarenes, Spain*

Posters: Genetics of Trait Complexes - Reproduction (Group 2)
Chair: Jennie E. Pryce, Department of Environment and Primary Industries

Presentation Time: 3:30 PM – 4:00 PM

637 **Genetic Correlations among Detailed Reproductive Traits, Traditional Reproductive Traits and Milk Production in Irish Dairy Cows.**
*T. R. Carthy[*1], D. P. Berry[2], R. Evans[3] and D. P. Ryan[4], [1]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Cork, Ireland, [2]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [3]Irish Cattle Breeding Federation, Co.Cork, Ireland, [4]Reprodoc Ltd, Fermoy, Cork, Ireland*

638 **Effects of the FecL Major Gene on Mean and Variance of Litter Size in the Lacaune Meat Sheep Population.**
*L. Bodin[*1], P. M. Martin[1] and J. Raoul[2], [1]INRA, UMR1388 GenPhySE, Castanet-Tolosan, France, [2]Idele, Castanet tolosan, France*

639 **Single Nucleotide Polymorphisms in Candidate Genes Related to Daughter Pregnancy Rate in Holstein Cows.**
*M. S. Ortega[*1], A. C. Denicol[1], D. J. Null[2], J. B. Cole[2] and P. J. Hansen[1], [1]Department of Animal Sciences, University of Florida, Gainesville, [2]Animal Improvement Programs Laboratory, Agricultural Research Service, United States Department of Agriculture, Beltsville, MD*

640 **The Fertility of South African Holstein and Jersey Heifers.**
C. J. Muller[*], Directorate Animal Sciences, Elsenburg, South Africa

641 **Follicular Dynamics and Uterine Environment Associations with Production and Performance Traits in Irish Dairy Cows.**
*A. Fitzgerald[*1], D. P. Berry[2] and D. P. Ryan[3], [1]Teagasc, Fermoy, Ireland, [2]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [3]Reprodoc Ltd, Fermoy, Cork, Ireland*

642 **Prediction of Genomic Breeding Values for Reproductive Traits in Nellore Heifers.**
*R. B. Costa[*1], I. D. P. S. Diaz[1], N. Irano[1], L. Takada[1], R. Carvalheiro[2], F. Baldi[1], H. N. Oliveira[1], H. Tonhati[3] and L. G. Albuquerque[3], [1]Sao Paulo State University (UNESP), Jaboticabal, Brazil, [2]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil, [3]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil*

643 **Genome-Wide Association Study of First Service Conception Rate in Brangus Heifers using Probit, Robit and Logit Models.**
*S. O. Peters[*1], K. Kizilkaya[2], D. J. Garrick[3], R. L. Fernando[3], J. M. Reecy[3], I. G. Imumorin[4] and M. G. Thomas[5], [1]Berry College, Mount Berry, GA, [2]Adnan Menderes University, Aydin, Turkey, [3]Iowa State University, Ames, [4]Cornell University, Ithaca, NY, [5]Colorado State University, Department of Animal Sciences, Fort Collins*

644 **Testes Size as Predictor for Semen Production of Boars and Relation to Female Reproductive Traits.**
*F. Ytournel[*1], E. Brunet[2], P. Derks[1] and A. Huisman[3], [1]Hypor, Boxmeer, Netherlands, [2]France Gènes, Saint Gérand, France, [3]Hendrix Genetics, Boxmeer, Netherlands*

645 **Genome-Wide Association Study on Long-Yearling Scrotal Circumference in Canchim Cattle.**
*M. E. Buzanskas[*1], D. A. Grossi[2], R. V. Ventura[2], T. C. S. Chud[3], I. Urbinati[3], S. Meirelles[4], F. B. Mokry[5], F. S. Schenkel[2], L. C. A. Regitano[6], M. M. D. Alencar[7] and D. P. Munari[8], [1]Universidade Estadual Paulista Júlio de Mesquita, Faculdade de Ciências Agrárias e Veterinárias, Departamento de Ciências Exatas, Jaboticabal-SP, Brazil, [2]Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, [3]Univ Estadual Paulista Julio de Mesquita Filho, Jaboticabal, Brazil, [4]Federal University of Lavras, Lavras, Brazil, [5]Universidade Federal de São Carlos, São Carlos, Brazil, [6]Embrapa Pecuária Sudeste, São Carlos, Brazil, [7]Embrapa Southeast Livestock, Sao Carlos, Brazil, [8]Universidade Estadual Paulista "Júlio de Mesquita Filho", Jaboticabal, Brazil*

646 **Genetic Parameters of Days Open and Protein Yield Across Lactations for the Uruguayan Holstein Population.**
N. Frioni[*], Facultad de Agronomía, Uruguay, Montevideo, Uruguay

647 **Genome Wide Scan for Age at First Calving in Gyr Dairy Cattle.**
*A. T. H. Utsunomiya[*1], S. A. Boison[2], D. J. A. dos Santos[3], Y. T. Utsunomiya[1], M. A. Machado[4], R. S. Verneque[4], J. Sölkner[2], J. F. Garcia[5], R. da Fonseca[6] and M. V. G. B. da Silva[4], [1]UNESP Univ Estadual Paulista, Jaboticabal, Brazil, [2]University of Natural Resources and Life Sciences, Vienna, Austria, [3]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil, [4]Embrapa Dairy Cattle, Juiz de Fora, Brazil, [5]UNESP Univ Estadual Paulista, Araçatuba, Brazil, [6]São Paulo State University "Júlio de Mesquita Filho", Dracena, Brazil*

648 **Genome Wide Association Study for Calving Interval in Gyr Dairy Cattle.**
*M. A. Machado[*1], A. T. H. Utsunomiya[2], S. A. Boison[3], D. J. A. dos Santos[4], Y. T. Utsunomiya[2], R. da Fonseca[5], J. Sölkner[3], J. F. Garcia[6], R. S. Verneque[1] and M. V. G. B. da Silva[1], [1]Embrapa Dairy Cattle, Juiz de Fora, Brazil, [2]UNESP Univ Estadual Paulista, Jaboticabal, Brazil, [3]University of Natural Resources and Life Sciences, Vienna, Austria, [4]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil, [5]São Paulo State University "Júlio de Mesquita Filho", Dracena, Brazil, [6]UNESP Univ Estadual Paulista, Araçatuba, Brazil*

649 **Mapping of a Major Gene for Bovine Ovulation Rate.**
*B. W. Kirkpatrick[*1] and C. A. Morris[2], [1]University of Wisconsin, Madison, [2]AgResearch, Ruakura, New Zealand*

650 **Use of High Density SNP Genotypes to Determine the Breed Composition of Cross Bred Dairy Cattle in Smallholder Farms: Assessment of Reproductive and Health Performance.**
*F. D. N. Mujibi[*1], J. M. Ojango[1], J. Rao[1], A. Kihara[2], A. G. Marete[1], I. Baltenweck[2], J. Poole[1], E. O. Rege[3], C. Gondro[4], S. Weerasinghe[4], J. Gibson[4], A. M. Okeyo[1] and T. Karanja[5], [1]International Livestock Research Institute, Nairobi, Kenya, [2]International Livestock Research Institute (ILRI), Nairobi, Kenya, [3]PICO- Eastern Africa, Nairobi, Kenya, [4]University of New England, Armidale, Australia, [5]Aga Khan Foundaion, Geneva, Switzerland*

Posters: Swine Breeding (Group 2)
Chair: Graham S. Plastow, University of Alberta

Presentation Time: 3:30 PM – 4:00 PM

931 **Genetic Parameters for Individual Birth Weight, Weaning Weight and Final Weight of Crossbred Pigs from Piétrain Boars.**
M. Dufrasne[*], University of Liege, Gembloux Agro-Bio Tech, Gembloux, Belgium; Fonds pour la formation à la Recherche dans l'Industrie et dans l'Agriculture, Brussels, Belgium

932 **Does Direct Genetic Selection for Production Traits Degrade Maternal Ability in Landrace Pigs?**
B. Dube[*], A. Davids and K. Dzama, University of Stellenbosch, Stellenbosch, South Africa

933 **Candidate Genes Network for Number of Teats in Pigs.**
*S. E. Guimaraes[*1], L. L. Verardo[2], F. F. Silva[1], M. J. Kelly[3], M. S. Lopes[4], J. W. M. Bastiaansen[4], P. S. Lopes[1] and E. F. Knol[5], [1]Universidade Federal de Viçosa, Viçosa, Brazil, [2]UNIVERSIDADE FEDERAL DE VICOSA, vicosa, Brazil, [3]The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, Brisbane, Australia, [4]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [5]TOPIGS Research Center IPG, Beuningen, Netherlands*

934 **Tracking Footprints of an Experiment of Selection in Iberian Pigs.**
M. C. Rodríguez[*], Y. Nuñez, A. Fernandez, A. Fernandez, C. Barragan and L. Silió, INIA, Madrid, Spain

935 **Genomic Selection in Pig Breeding for Improved Meat Quality.**
E. Gjerlaug-Enger[*], Nordbø and E. Grindflek, Norsvin, Hamar, Norway

936 **A Genome-Wide Scan Reveals Novel Loci Associated with Liability to Scrotal and Inguinal Hernia in Large White Pigs.**
*C. Sevillano[*1], M. S. Lopes[2,3], J. W. M. Bastiaansen[2] and B. Harlizius[3], [1]TOPIGS Research Center IPG BV, Beuningen, Netherlands, [2]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [3]TOPIGS Research Center IPG, Beuningen, Netherlands*

937 **Effectiveness of genomic prediction of boar taint components in different Pietrain sired breeding populations.**
C. Grosse-Brinkhaus, C. Neuhoff, K. Schellander, C. Looft and E. Tholen[*], Institute of animal science, University of Bonn, Bonn, Germany

938 **Estimation of Ancient and Recent Effective Population Size from Linkage Disequilibrium in a Closed Herd of Iberian Pigs.**
*M. Saura[*1], J. A. Woolliams[2], A. Tenesa[3], A. Fernandez[1] and B. Villanueva[1], [1]INIA, Madrid, Spain, [2]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [3]The Roslin Institute and R(D)SVS & The MRC Human Genetics Unit, MRC Institute of Genetics and Molecular Medicine, University of Edinburgh, Midlothian, United Kingdom*

939 **Genome-Wide Association Analysis with Correlated Traits in Duroc Pigs: Growth, Feed Intake and Ultrasound Backfat Thickness.**
*S. Jiao[*1], C. Maltecca[1], K. A. Gray[2], Y. Huang[2] and J. P. Cassady[3], [1]North Carolina State University, Raleigh, [2]Smithfield Premium Genetics, Rose Hill, NC, [3]South Dakota State University, Brookings*

940 **Long-Term Selection for Litter Size Results in Significant Shifts in Allelic Frequency in Regions Involved in Reproductive Processes.**
*M. D. Trenhaile[*1], J. L. Petersen[2], K. L. Lucot[1], S. D. Kachman[1], R. K. Johnson[1] and D. C. Ciobanu[1], [1]University of Nebraska, Lincoln, [2]University of Minnesota, Saint Paul*

941 **Identification of Genomic Regions Associated with Swine Growth.**
*N. J. Boddicker[*1], P. Mwansa[1] and R. A. Kemp[2], [1]Genesus Inc, Oakville, MB, Canada, [2]Genesus Inc, Lethbridge, AB, Canada*

942 **Genetic Association between Leg Conformation in Young Pigs and Longevity of Yorkshire Sows.**
*H. T. Le[*1,2], K. Nilsson[1], E. Norberg[3] and N. Lundeheim[1], [1]Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden, [2]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Aarhus, Denmark, [3]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark*

943 **Evaluation of Maternal Genetic Effect using the Pseudo Individual Weaning Weight Derived from Litter Weaning Weight.**
K. Ishii[*] and M. Satoh, NARO Institute of Livestock and Grassland Science, Tsukuba, Japan

944 **Changes in Connectedness among Herds and Birth Years of Duroc Pigs in Korea.**
J. Choi, C. Cho, S. Kim, B. Park, S. Lee, K. Cho, T. Choi and Y. H. Choy, NIAS, Chonan, South Korea*

Friday, August 22, 2014

Posters: Adaptation and Selection in Harsh Environments (Group 1)
Chair: Alessandra Stella, Fondazione Parco Tecnologico Padano

Presentation Time: 9:30 AM – 10:00 AM

411 **Estimation of Breeding Values by Different Animal Models for Selection of Sires in Crossbred Cattle.**
C. V. Singh, G.B. Pant University of Agriculture & Technology, Pantnagar, India*

412 **Estimation Of Slaughter Parameters For Ethiopian Arsi Cattle At Adama City Abattoir.**
A. Gebeyehu, Adami Tulu Agricultural Research Center, Batu (Ziway), Ethiopia*

413 **Genetic Analyses of Conformation Traits and their Relationships with Reproductive Traits in Holstein Cows.**
M. Rabbani khourasgani, S. Ansari Mahyari and M. A. Edriss, Department of Animal Science, College of Agriculture, Isfahan University of Technology, Isfahan, Iran*

414 **Genotype X Environment Interaction for Milk Yield in Buffaloes.**
N. A. Hurtado-Lugo, F. Araujo Neto, F. Borba, C. E. Enriquez-Valencia, V. Roldan and H. Tonhati, State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil*

415 **MITF Gene Locus is Associated with Coat Color Variation of Ethiopian Cattle Populations Adapted to Different Altitude Environments.**
K. S. Kim and Z. Edea, Chungbuk National University, Cheongju, South Korea*

416 **Direct and Maternal Additive Effects and Heterosis in Prolificacy Weaning Traits in Rabbits.**
Y. García, Institute of Animal Science, San José, Cuba*

417 **Direct and Maternal Additive Effects and Heterosis in Productivity Traits at Weaning in Rabbits.**
R. E. Ponce de León, Institute of Animal Science, San José de las Lajas, Cuba*

418 **Selection for Economic Feed Conversion Efficiency of Dairy Cattle under Co-operative Dairy Conditions in the North of Argentina.**
R. Gagliardi[*1] and N. Lopez-Villalobos[2], [1]Cooperativa Tambera Nueva Alpina Ltda., Colonia Alpina, Argentina, [2]Massey University, Palmerston North, New Zealand*

419 **The Complex and Gender Differentiated Objectives of Livestock Keeping for Somali Pastoralists.**
K. Marshall, N. Mtimet, F. Wanyoike and N. Ndiwa, International Livestock Research Institute, Nairobi, Kenya*

420 **Iberian Pig Selection in Two Different Open-Air Production Systems: GxE Interactions for Premium Cuts Percentage and Intramuscular Fat Content.**
J. M. García-Casco[*1], M. C. Rodríguez[2] and L. Silió[2], [1]INIA, Zafra, Spain, [2]INIA, Madrid, Spain*

421 **Genotype by Environment Interaction for Milk Production Traits in Tunisian Holstein Dairy.**
A. Hamrouni[*1], M. Djemali[2] and S. Bendhiaf[3], [1]Institut National Agronomique de Tunise, Rude de kornich Chot El Salem Gabès, Tunisia, [2]2Carthage University-INAT-TUNISIA, Laboratoire des Ressources Animales et Alimentaires, 1082 Cité Mahrajène,Tunisia, Tunis, Tunisia, [3]Institut National de Recherche Agronomique de Tunis, Tunis, Tunisia*

422 **Influences of Environmental Describer for Detect Genotype by Environmental Interaction in Cuban Zebu Population.**
Y. Rodríguez, Institute of Animal Science, San José de las Lajas, Cuba*

423 **Sexually Dimorphic Environmental Sensitivity In Beef Cattle Studied By Principal Component Analyses In A Developmental Reaction Norm Model.**

*N. T. Pegolo[*1], R. B. Lôbo[2] and H. N. de Oliveira[3], [1]Federal Institute of Education, Science and Technology of São Paulo, Avaré, Brazil, [2]Ribeirão Preto Medical School, USP, Ribeirão Preto, Brazil, [3]Universidade Estadual Paulista "Júlio de Mesquita Filho"- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil*

424 **Genetic Diversity And Adaptability Exist Among Backyard Poultry Populations In Sri Lanka.**
*P. Silva[*1], N. Abeykone[1], M. Samaraweera[2], H. Jianlin[3], M. N. M. Ibrahim[3] and O. Mwai[3], [1]Department of Animal Science, Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka, [2]Faculty of Animal Science and Export Agriculture, Uva Wellassa University, Badulla, Sri Lanka, [3]International Livestock Research Institute, Nairobi, Kenya*

425 **Efficiency of Random Regression Model over Conventional Univariate Animal Model for Estimation of Breeding Values for First Lactation 305-Day Milk Yields in Mehsana Buffaloes.**
*S. Saha[*1], A. Sudhakar[1], M. N. Prajapati[2], N. Nayee[1] and K. R. Trivedi[1], [1]National Dairy Development Board, Anand, India, [2]Mehsana District Co-operative milk producers' union, Mehsana, India*

426 **Genome-Wide Association Studies for Growth Traits in Colombian Creole Cattle using a Single-Step Genomic Best Linear Unbiased Prediction (gBLUP).**
R. Martinez[*], CORPOICA, Bogotá, Colombia

Posters: Poultry Breeding (Group 1)
Chair: Hans H Cheng, USDA, ARS, ADOL and William M. Muir, Purdue University

Presentation Time: 9:30 AM – 10:00 AM

850 **Two Major QTL in Chromosome 4 of Laying Hens with the Effects on Egg Traits. M.G. Smaragdov, O.Yu. Barkova and K. V. Plemyashov National Research Institute for Animal Genetics and Breeding, St. Petersburg, Russia.**
M. Smaragdov[*], National Research Institute of Animal Genetics and Breeding, St. Petersburg, Russia

851 **The Effect of Inbreeding on Linkage Disequilibrium.**
*G. B. Nascimento[*1], R. P. Savegnago[1], R. V. Ventura[2,3], M. C. Ledur[4] and D. P. Munari[5], [1]Univ. Estadual Paulista – FCAV/UNESP, Jaboticabal, Brazil, [2]University of Guelph, Guelph, ON, Canada, [3]Beef Improvement Opportunities, Guelph, ON, Canada, [4]Embrapa Suínos e Aves, Concórdia, Brazil, [5]Universidade Estadual Paulista "Júlio de Mesquita Filho", Jaboticabal, Brazil*

852 **Impact of Egg Weight Selection on Body Weight of Japanese Quail.**
A. E. Eldlebshany[*], Alexandria University, Alexandria, Egypt

853 **Improving Analysis of Direct and Indirect Genetic Effects on Survival Data in Laying Hens.**
*T. Brinker[*1], E. D. Ellen[1], J. Visscher[2] and P. Bijma[1], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]Institut de Sélection Animale B.V., Hendrix Genetics, Boxmeer, Netherlands*

854 **Genetic Parameters for Production Traits of Rhode Island Red and White Plymouth Rock Breeds Selected under Tropical Condition in Thailand.**
S. Tongsiri[*], Animal Genetics and Breeding Unit, University of New England, UNE., Armidale, Australia

855 **Neural Networks to Predict Breeding Values of Egg Production using Phenotypic Information.**
*V. A. R. Cruz[*1], R. P. Savegnago[2], G. S. Schmidt[3], M. C. Ledur[4] and D. P. Munari[5], [1]São Paulo State University, Jaboticabal, Brazil, [2]Univ. Estadual Paulista – FCAV/UNESP, Jaboticabal, Brazil, [3]Embrapa Swine and Poultry, Concórdia, Brazil, [4]Embrapa Suínos e Aves, Concórdia, Brazil, [5]Universidade Estadual Paulista "Júlio de Mesquita Filho", Jaboticabal, Brazil*

856 **Bivariate Analysis of Individual Survival Data and Pooled Early Egg Production Data on Crossbred Laying Hens.**
*K. Peeters[*1], J. Visscher[2] and P. Bijma[1], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]Institut de Sélection Animale B.V., Hendrix Genetics, Boxmeer, Netherlands*

857 **SNP Discovery in a QTL Region Associated With Breast Muscle Deposition on Chicken Chromosome 2.**
C. Boschiero[*], Department of Animal Science, University of São Paulo/ESALQ, Piracicaba, Brazil

858 **Fine Mapping of QTL for Carcass and Meat Quality Traits in a Chicken Slow-Growing Line.**
*S. Allais[*1,2,3], C. Hennequet-Antier[4], C. Berry[4], M. Chabault-Dhuit[4], F. D'Abbadie[5], E. Le Bihan-Duval[4] and O. Demeure[1,2], [1]INRA, UMR1348 PEGASE, Saint-Gilles, France, [2]Agrocampus Ouest, UMR1348 PEGASE, Rennes, France, [3]Université Européenne de Bretagne, RENNES, France, [4]INRA UR83, Nouzilly, France, [5]SASSO, Sabres, France*

859 **Genetic Analysis of Meat-Type Quail Growth Under Different Nutritional Environments.**
*L. Pinheiro da Silva[*1], J. Correa Ribeiro[2], A. Camporez Crispim[2], G. Costa Caetano[2], R. Reis Mota[2], F. F. Silva[2] and R. Almeida Torres[2], [1]Universidade Federal do Ceará, Fortaleza, Brazil, [2]Universidade Federal de Viçosa, Viçosa, Brazil*

860 **Genetic Parameters for Early Reproduction Traits in Ostriches.**
*S. W. Cloete[*1] and Z. D. Brand[2], [1]Directorate Animal Sciences, Elsenburg, South Africa, [2]Directorate Animal Sciences, Oudtshoorn, South Africa*

861 **Sex-specific Association of a SNP in the ADIPOR2 Gene with Carcass Traits in a Paternal Broiler Line.**
*L. T. Fernandes[*1], T. F. Godoy[2], V. H. Silva[2], J. R. Pandolfi[1], M. E. Cantão[1], J. O. Peixoto[1], L. L. Coutinho[3] and M. C. Ledur[1], [1]EMBRAPA Swine and Poultry, Concórdia, Brazil, [2]University of Sao Paulo, Piracicaba, Brazil, [3]Universidade de São Paulo/Esalq, Piracicaba, Brazil*

862 **RUNX2 Plays an Essential Role in the Manifestation of Femoral Head Necrosis in Broilers.**
*E. Paludo[*1], A. M. G. Ibelli[1], J. O. Peixoto[1], F. C. Tavernari[1], R. Zanella[1], J. R. Pandolfi[1], L. L. Coutinho[2], C. A. Lima-Rosa[3] and M. C. Ledur[1], [1]EMBRAPA Swine and Poultry, Concórdia, Brazil, [2]Universidade de São Paulo/Esalq, Piracicaba, Brazil, [3]Santa Catarina State University, Lages, Brazil*

863 **Variations Of The Melanocortin 1 Receptor Gene Associated With Partridge Phenotypes In Wenchang Chickens.**
X. Zhang[*], South China Agroicultural University, Guangzhou, China

864 **Genetic Evaluation of Body Weight and Tibia Resistance in Broilers.**
*J. O. Peixoto[*1], V. L. Kawski[1], A. M. G. Ibelli[1], R. Zanella[1], H. Mazzuco[1], C. G. Souza[2], D. P. Munari[3], F. R. F. Jaenisch[1] and M. C. Ledur[1], [1]EMBRAPA Swine and Poultry, Concórdia, Brazil, [2]Universidade Estadual Paulista "Júlio de Mesquita Filho", Concórdia, Brazil, [3]Universidade Estadual Paulista "Júlio de Mesquita Filho", Jaboticabal, Brazil*

865 **Discovery Of SNPs Potentially Associated with Fatness in a QTL Region on Chicken Chromosome 3.**
*G. C. M. Moreira[*1], T. F. Godoy[1], C. Boschiero[1], A. Gheyas[2], G. Gasparin[1], M. Paduan[1], S. C. S. Andrade[1], H. Montenegro[3], D. Burt[2], M. C. Ledur[4] and L. L. Coutinho[5], [1]Department of Animal Science, University of São Paulo/ESALQ, Piracicaba, Brazil, [2]The Roslin Institute and Royal (Dick) School of Veterinary Studies, Edinburgh, United Kingdom, [3]Department of Genetics, University of Sao Paulo (ESALQ), Piracicaba, Brazil, [4]EMBRAPA Swine and Poultry, Concórdia, Brazil, [5]Universidade de São Paulo/Esalq, Piracicaba, Brazil*

Posters: Adaptation and Selection in Harsh Environments (Group 2)
Chair: Alessandra Stella, Fondazione Parco Tecnologico Padano

Presentation Time: 10:00 AM – 10:30 AM

427 **QTL for Body Composition Traits During Heat Stress Revealed in an Advanced Intercross Line of Chickens.**
A. G. Bjorkquist[*], Iowa State University, Ames

428 **Genetic Correlation and Genome Wide Association Study of Pulmonary Arterial Pressure and Post Weaning Growth Traits in Angus Heifers from a High Altitude Breeding Program.**
*X. Zeng[*1], R. Cockrum[2], N. F. Berge[1], J. M. Neary[3], F. B. Garry[3], T. N. Holt[3], H. D. Blackburn[4], S. E. Speidel[1], D. J. Garrick[5], R. M. Enns[1] and M. G. Thomas[1], [1]Colorado State University, Department of Animal Sciences, Fort Collins, [2]Virginia Polytechnic Institute and State University, Blacksburg, [3]Colorado State University, College of Veterinary Medicine and Biomedical Sciences, Fort Collins, CO, [4]USDA-ARS-National Animal Germplasm Program, Fort Collins, CO, [5]Iowa State University, Ames*

429 **Relationship of Endocrine Pathway SNP and Molecular Breeding Value with Milk Production in Heat Stressed Holstein Cows.**
*A. I. Hernandez[*1], P. Luna[2], G. Rincon[3], J. F. Medrano[4], R. M. Enns[5] and M. G. Thomas[5], [1]Colorado State University, Fort Collins, [2]Instituto Tecnologico de Sonora, Ciudad Obregon, Mexico, [3]Zoetis Inc., Kalamazoo, MI, [4]University of California, Davis, [5]Colorado State University, Department of Animal Sciences, Fort Collins*

430 **Genetic Relationships between Pulmonary Arterial Pressure and Performance Traits in Colorado State University Beef Improvement Center Angus herd.**
N. F. Berge[*], S. E. Speidel, X. Zeng, M. M. Culbertson, M. G. Thomas and R. M. Enns, Colorado State University, Department of Animal Sciences, Fort Collins

431 **Participatory Definition of Trait Preferences for Designing Village Breeding Schemes for Goats in Harsh Environments of Ethiopia.**
*T. Dessie[*1], G. Gebreyesus[2], G. Mekuriaw[3], T. Woldu[4], T. Jembere[5], M. Agaba[6] and A. M. Okeyo[7], [1]International Livestock Research Institute, Addis Abeba, Ethiopia, [2]International Livestock Research Institute, Addis Ababa, Ethiopia, [3]Addis Ababa University, Addis Ababa, Ethiopia, [4]Hohenhiem University, Stutgart, Germany, [5]Haramaya University, Haramaya, Ethiopia, [6]Biosciences eastern and central Africa - International Livestock Research Institute Hub, Nairobi, Kenya, [7]International Livestock Research Institute, Nairobi, Kenya*

432 **Different Measures of Efficiency and Their Phenotypic Relationship with Production Traits of Nigerian Indigenous and Large White Pigs in a Humid Tropical Environment.**
*E. Akanno[1], V. Okoro[*1], S. N. Ibe[2], O. O. Emenalom[1], N. O. Aladi[1], E. B. Etuk[1], U. E. Ogundu[1], J. N. Okeudo[1], M. O. Obike[2], H. O. Obikaonu[1] and C. I. Okoli[1], [1]Federal University of Technology, Owerri, Nigeria, [2]Michael Okpara University of Agriculture, Umudike, Nigeria*

Posters: Breeding in Aquaculture Species (Group 1)
Chair: William S. Davidson, Simon Fraser Universiy, Thomas Moen, AquaGen AS, and Roberto Neira, University of Chile, Aquainnovo

Presentation Time: 10:00 AM – 10:30 AM

772 **Experimental Designs for Genetic Parameters and Response to Selection of Social Interaction Traits in Aquaculture.**
*P. Sae-Lim[*1] and P. Bijma[2], [1]Nofima, Ås, Norway, [2]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands*

773 **Indirect Genetic Effects for Harvest Weight in Nile Tilapia (*Oreochromis niloticus*).**
*H. L. Khaw[*1,2], R. W. Ponzoni[3], H. Y. Yee[3], M. A. Aziz[3] and P. Bijma[1], [1]Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, [2]The WorldFish Center, Penang, Malaysia, [3]WorldFish, Penang, Malaysia*

774 **Sexual Maturation of 1 and 2 Year Old Farmed Atlantic Cod – Prevalence and Heritability Estimates.**
*T. M. K. Drangsholt[*1], H. M. Nielsen[2], R. Bangera[3] and V. Puvanendran[1], [1]Nofima, Tromsø, Norway, [2]Nofima, Ås, Norway, [3]Norwegian Institute of Food, Fisheries and Aquaculture Research, Tromsø, Norway*

775 **Genetic Analysis of Resistance to Acute or Chronic Temperature Stress using Isogenic Lines of Rainbow Trout (Oncorhynchus mykiss).**
*M. Dupont-Nivet[*1], M. Crusot[1], D. Rigaudeau[2] and E. Quillet[1], [1]INRA, UMR 1313 GABI, Jouy en Josas, France, [2]INRA, UE 907 IERP, Jouy en Josas, France*

776 **Effect of Family Structure and Size on Genomic Selection Accuracy in Aquaculture Breeding.**
*K. G. Nirea[*1], A. K. Sonesson[2], M. Lillehammer[3] and T. H. E. Meuwissen[1], [1]Norwegian University of Life Sciences, Ås, Norway, [2]NOFIMA, Ås, Norway, [3]Nofima As, Ås, Norway*

777 **Correcting for Early Within-Family Pre-Selection in Genetic Evaluation - A Simulation on Rainbow Trout Growth.**
*M. Janhunen[*1], A. Kause[1], H. Vehviläinen[1], H. Koskinen[2] and A. Nousiainen[2], [1]MTT Agrifood Research Finland, Jokioinen, Finland, [2]Finnish Game and Fisheries Research Institute, Tervo, Finland*

778 **MicroRNA Profiling of Atlantic Salmon Challenged with Infectious Pancreatic Necrosis Virus: Comparison between Resistant and Susceptible Fish.**
*N. R. Lowe[*1], M. Bekaert[2], S. C. Bishop[1], J. E. Bron[2], J. B. Taggart[2] and R. D. Houston[1], [1]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, [2]Institute of Aquaculture, School of Natural Sciences, University of Stirling, Stirling, United Kingdom*

779 **The Efficacy of Walk-Back Selection and Optimized Parent Selection in the Presence of Unequal Family Distributions.**
*F. Hely[*1], P. Amer[1], S. Walker[2] and J. Symonds[2], [1]AbacusBio Limited, Dunedin, New Zealand, [2]NIWA, Ruakaka, New Zealand*

780 **Improving Uniformity of Growth by Mating and Selection Strategies in Rainbow Trout.**
*A. Kause[*1], M. Janhunen[1], H. Vehviläinen[1], H. Koskinen[2] and A. Nousiainen[2], [1]MTT Agrifood Research Finland, Jokioinen, Finland, [2]Finnish Game and Fisheries Research Institute, Tervo, Finland*

781 **Genotype by Diet Interactions on Growth and Processing Traits in Rainbow Trout (O. mykiss), Sea Bass (D. labrax), Sea Bream (S. aurata) and Meagre (A. regius) Fed Diets Highly Substituted in both Fish Meal and Fish Oil by Vegetal Ingredients.**
A. Bestin[*], SYSAAF, Rennes, France

782 **Genome-Wide Association Study (GWAS) for Growth Rate and Sexual Maturation in Atlantic Salmon (Salmo salar).**
*A. P. Gutierrez[*1], J. M. Yañez[2], S. Fukui[3], B. Swift[4] and W. S. Davidson[5], [1]Simon Fraser University, Burnaby, BC, Canada, [2]University of Chile, Santiago, Chile, [3]Cermaq, Campbell River, BC, Canada, [4]TRI-GEN Fish Improvement Ltd., Agassiz, BC, Canada, [5]Simon Fraser Universiy, Burnaby, BC, Canada*

Posters: Genetics of Trait Complexes: Growth and Development (Group 1)
Chair: Michael D. MacNeil, Delta G

Presentation Time: 10:00 AM – 10:30 AM

585 **A Co-association Network Analysis of the Genetic Determination of Pig Growth and Shape.**
A. M. Puig Oliveras[*], Centre de Recerca en Agrigenòmica, Barcelona, Spain

586 **Using Next-Generation Sequencing To Identify Candidate Genes For QTLs Affecting Body Weight And Fat Weight In the Mouse.**
A. Ishikawa[*], Graduate School of Bioagricultural Sciences, Nagoya University, Nagoya, Japan

587 **A Genome-Wide Association Study for Morphometric Traits in Quarter Horse.**
R. A. Curi[*], Universidade Estadual Paulista, Botucatu, Brazil

588 **Heritability Estimates of Conjugated Linoleic Acid Isomers in Brisket Adipose Tissue of Canadian Crossbred Beef Steers.**
C. Li[*], Agriculture and Agri-Food Canada, Edmonton, AB, Canada

589 **Growth Curves Changes in Nellore Males Selected for Postweaning Weight.**
*S. F. M. Bonilha[*1], C. C. Coutinho[1], M. E. Z. Mercadante[1], A. M. Jorge[2], L. El Faro[3], C. C. P. Paz[3], J. N. S. G. Cyrillo[1] and R. H. Branco[1], [1]Centro APTA Bovinos de Corte, Instituto de Zootecnia, Sertãozinho-SP, Brazil, [2]Faculdade de Medicina Veterinária e Zootecnia, Universidade Estadual Paulista, Botucatu-SP, Brazil, [3]SAA/APTA/Instituto de Zootecnia-Centro de Bovinos de Corte, Sertãozinho-SP, Brazil*

590 **Identification of Selection Footprints in a Brown Hanwoo (Korean cattle) Population for Production Traits.**
D. Lim[*], Animal Genomics & Bioinformatics Division, NIAS, RDA, Suwon, South Korea

591 **Induction of Differentiation by AAV2-Mediated Follistatin Overexpression in Ovine Primary Myoblasts.**
M. Nazari[*] and L. Zhang, Animal science, Beijing, China

592 **Regional Heritability Mapping of Age-Dependent Loci Affecting Growth Traits in Scottish Blackface Lambs.**
*G. Hadjipavlou[*1], V. Riggio[2], R. Pong-Wong[2], O. Matika[2] and S. C. Bishop[2], [1]Agricultural Research Institute, Lefkosia, Cyprus, [2]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom*

593 **Investigation of Candidate Regions Associated With Fat Deposition in Thin and Fat Tail Sheep Breeds.**
M. H. Moradi[*], Arak University, Arak, Iran

594 **Genetic Parameter Estimation of Body Size and Birth Weight in Chinese Holstein Cows.**
*X. Zhang[*1], Y. Wang[1], G. Guo[2], Y. Yu[1], X. Li[2], X. Wang[2] and F. Wang[2], [1]College of Animal Science and Technology, China*

Agricultural University, Beijing, China, [2]BeijingSanyuan Lvhe Dairy Cattle Center, Beijing Sanyuan Breeding Technology Co., Beijing, China

Posters: Poultry Breeding (Group 2)
Chair: Hans H Cheng, USDA, ARS, ADOL and William M. Muir, Purdue University

Presentation Time: 10:00 AM – 10:30 AM

866 **Parameter Estimates of Average Daily Feed Consumption and Association with CCKAR Genotypes in White and Brown Egg-Type Laying Hens.**
*K. Rowland[*1], A. Wolc[2], J. Arango[2], P. Settar[2], J. E. Fulton[2], N. P. O'Sullivan[2] and J. C. M. Dekkers[1], [1]Iowa State University, Ames, [2]Hy-Line International, Dallas Center, IA*

867 **Using Multiple Regression, Bayesian Networks and Artificial Neural Networks for Prediction of Total Egg Production in European Quails.**
*V. P. Felipe[*1], M. A. Silva[2], B. D. Valente[1] and G. J. M. Rosa[1], [1]University of Wisconsin, Madison, [2]Federal University of Vales do Jequitinhonha and Mucuri, Diamantina, Brazil*

868 **Quantitative Morphological Traits as a Measure of Genetic Diversity in Two Indigenous Chicken Ecotypes in Ethiopia.**
*E. Aklilu[*1], G. Gebreyesus[1], K. Kebede[2] and T. Dessie[3], [1]International Livestock Research Institute, Addis Ababa, Ethiopia, [2]Haramaya University, Haramaya, Ethiopia, [3]International Livestock Research Institute, Addis Abeba, Ethiopia*

Posters: Management of Animal Genetic Resources (Group 1)
Chair: Michèle Tixier-Boichard, INRA

Presentation Time: 3:00 PM – 3:30 PM

433 **Animal Genetic Resources in Slovakia.**
P. Chrenek[*], Slovak University of Agriculture, Nitra, Slovakia

434 **Genetic Diversity of the Afrikaner Cattle Breed.**
L. Pienaar[*], University of the Free State, Bloemfontein, South Africa; Agricultural Research Council - Animal Production Institute, Pretoria, South Africa

435 **Using Adaptive Simulated Annealing For Optimal Selection With Several Constraints.**
H. Chapuis[*], SYSAAF, Nouzilly, France

436 **Understanding the Structure of the Brazilian Red Sindhi Population using Genomic Information.**
*J. C. C. Panetto[*1], R. M. H. Leite[2], G. G. Santos[1], F. A. T. Bruneli[1], R. B. Teixeira[3], L. G. D. Castro[4], D. R. L. Reis[1], M. A. Machado[1], M. G. Campolina Diniz Peixoto[1] and R. D. Silva Verneque[1], [1]Embrapa Dairy Cattle, Juiz de Fora, Brazil, [2]Paraiba Agricultural State Research Company, Joao Pessoa, Brazil, [3]Minas Gerais Federal Institute, Bambui, Brazil, [4]President Antonio Carlos University, Juiz de Fora, Brazil*

437 **European Gene Bank Network for Animal Genetic Resources (EUGENA).**
*S. J. Hiemstra[*1], E. Martyniuk[2], Z. Duchev[3] and F. Begemann et al.[4], [1]Centre for Genetic Resources the Netherlands, Wageningen UR, Wageningen, Netherlands, [2]Warsaw University of Life Sciences/National Research Institute of Animal Production, Warsaw, Poland, [3]Executive Agency for Selection and Reproduction in Animal Breeding, Sofia, Bulgaria, [4]European Regional Focal Point (Secretariat), BLE, Bonn, Germany, Bonn, Germany*

438 **Determination of Non-Market Values to Inform Conservation Strategies for the Threatened Alistana-Sanabresa Cattle Breed.**
*D. Martin-Collado[*1], C. Diaz[2], A. G. Drucker[3], M. J. Carabaño[2] and K. Zander[4,5], [1]AbacusBio Ltd., Dunedin, New Zealand, [2]INIA, Madrid, Spain, [3]Bioversity International, Rome, Italy, [4]The Northern Institute, Darwin, Australia, [5]Research Institute for the Environment and Livelihoods, Charles Darwin University, Darwin, Australia*

439 **K-casein Genotypic and Allelic Frequencies in the Tropical Milking Criollo Cattle.**
C. M. Becerril-Pérez[*], Colegio de Postgraduados, Montecillo, Texcoco, Mexico

440 **Facing the Estimation of Effective Population Size Based on Molecular Markers: Comparison of Estimators.**
*B. Jiménez-Mena[*1,2,3], E. Verrier[1,2] and F. Hospital[1,2], [1]INRA UMR 1313 GABI, Jouy en Josas, France, [2]AgroParisTech, Paris, France, [3]Bioinformatics Research Center, Aarhus University, Aarhus, Denmark*

441 **New Parentage Testing SNP Panel for Commercial Breeds will be a Useful Tool for Conservation of Creole Sheep.**
*F. Macedo[1], E. A. Navajas[*2], I. Aguilar[3], N. Grasso[2], F. Pieruccioni[2] and G. Ciappesoni[2], [1]Universidad de la República, Montevideo, Uruguay, [2]INIA, Rincón del Colorado, Uruguay, [3]INIA, Las Brujas, Uruguay*

442 **Merging Molecular Data for Evaluating Cross Country Genetic Diversity of Pigs.**
A. S. Mariante[*], EMBRAPA Genetic Resources And Biotechnology, Brasilia, Brazil

443 **Major Histocompatibility Complex Genetic Diversity Of Kenyan Indigenous Chicken Populations Based On Microsatellite Markers.**
K. Ngeno[*], Wageningen University, Wageningen, Netherlands; Egerton University, Egerton, Kenya

444 **The Use of Genomic Coancestry Matrices in the Optimization of Contributions for Maintaining Diversity at Specific Regions of the Genome.**
*F. Gómez-Romano[*1], B. Villanueva[1], J. Fernández[1], J. A. Woolliams[2] and R. Pong-Wong[2], [1]INIA, Madrid, Spain, [2]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom*

445 **Persistence Of Linkage Disequilibrium Phase Amongst Five South African Beef Cattle Populations.**
*S. O. Makina[*1], E. van Marle-Koster[2], F. C. Muchadeyi[3] and N. A. Maiwashe[4], [1]Agricultural Research Council, Pretoria, South Africa, [2]University of Pretoria, Pretoria, South Africa, [3]Agricultural Research Council-Biotechnology Platform, Pretoria, South Africa, [4]University of the Free State, Bloemfontein, South Africa*

446 **Genetic Diversity in the Ramo Grande Cattle Breed Assessed by Pedigree Information and Microsatellite Markers.**
*A. L. Pavão[*1], C. Ginja[2] and L. T. Gama[3], [1]Direcção Regional da Agricultura e Desenvolvimento Rural, Angra do Heroísmo, Açores, Portugal, [2]Centro de Biologia Ambiental, Faculdade de Ciências - Universidade de Lisboa, Lisboa, Portugal, [3]FMV - University of Lisbon, Lisbon, Portugal*

447 **Utilization of Indigenous and Adapted Cattle by Small-Holder Producers in South Africa: A Socio Economic Perspective.**
*D. M. Motiang[*1] and E. C. Webb[2], [1]Agricultural Research Council, Pretoria, South Africa, [2]Department of Animal and Wildlife Sciences, Faculty of Natural and Agricultural Sciences, University of Pretoria, Pretoria, South Africa*

448 **Population Genetic Structure of Sri Lankan Backyard Chicken Flocks: Implication for Conservation and Genetic Improvement Programs.**
*M. Samaraweera[1], P. Silva[2], N. Abeykone[2], M. N. M. Ibrahim[3], A. M. Okeyo[3] and J. Han[*3], [1]Faculty of Animal Science and Export Agriculture, Uva Wellassa University, Badulla, Sri Lanka, [2]Department of Animal Science, Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka, [3]International Livestock Research Institute, Nairobi, Kenya*

Posters: Statistical Methods - Linear and Nonlinear Models (Group 1)
Chair: Marco C.A.M. Bink, Wageningen University

Presentation Time: 3:00 PM – 3:30 PM

686 **Simultaneous Estimation of Spatial and Genetic Effects using Hierarchical Generalized Linear Models.**
*L. Rönnegård[1,2], M. Felleki[*1,2], M. Alam[1] and X. Shen[3], [1]Dalarna University, Falun, Sweden, [2]SLU, Uppsala, Sweden, [3]Division of Computational Genetics, Department of Clinical Sciences, Swedish University of Agricultural Sciences, Uppsala, Sweden*

687 **Properties of Mendelian Residuals when Regressing Breeding Values using a Genomic Covariance Matrix.**
*R. J. C. Cantet[*1] and Z. G. Vitezica[2], [1]Department of Animal Science, University of Buenos Aires, Buenos Aires, Argentina, [2]Unite Mixte ENSAT- INRA, Toulouse, France*

688 **Can a Model with Genetic Groups for Mendelian Sampling Deviations Correct for Pre-Selection bias?**
F. Fikse[*], Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden

689 **Aggregation of Methods for Genetic Prediction.**
*C. Carre[*1,2], L. Tusell[2], S. Forni[3], F. Gamboa[1], D. Gianola[4] and E. Manfredi[2], [1]IMT Université Paul Sabatier, Toulouse, France, [2]INRA, Toulouse, France, [3]Genus Plc, Hendersonville, TN, [4]University of Wisconsin, Madison*

690 **Bayesian Analysis of Heterogeneous Residual Variance in Canine Behaviour.**
*S. M. van den Berg[*1], I. Schwabe[2], F. Fikse[3], H. C. Heuven[4] and C. A. Glas[1], [1]University of Twente, Enschede, Netherlands, [2]University of Twente, Enchede, Netherlands, [3]Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden, [4]University of Utrecht, Utrecht, Netherlands*

691 **Influence of Family Structure on Variance Decomposition.**
*S. M. Edwards[*1], P. M. Sarup[1] and P. Sørensen[2], [1]Center of Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [2]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark*

692 **A Bayesian Modeling Framework to Integrate Genetics and Epidemiology in Field Disease Data.**
*M. Nath[*1], C. M. Pooley[2], S. C. Bishop[2] and G. Marion[1], [1]Biomathematics and Statistics Scotland, Edinburgh, United Kingdom, [2]The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom*

693 **Variational Bayesian Method to Estimate Variance Components.**
*A. Arakawa[*1], M. Taniguchi[1], T. Hayashi[2] and S. Mikawa[1], [1]National Institute of Agrobiological Sciences, Tsukuba, Japan, [2]NARO Institute of Agricultural Research Center, Tsukuba, Japan*

694 **Parallel Computing to Speed up Whole-Genome Analyses using Independent Metropolis-Hastings Sampling.**
H. Cheng[*], R. L. Fernando and D. J. Garrick, Iowa State University, Ames

695 **Results of Genome Wide Association Studies Improve the Accuracy of Genomic Selection.**
*Z. Zhang[*1], J. He[1], H. Zhang[1], P. Gao[1], M. Erbe[2], H. Simianer[2] and J. Li[1], [1]South China Agricultural University, Guangzhou, China, [2]Georg-August University, Göttingen, Germany*

696 **Estimation of Genetic Parameters and Breeding Values in Honey Bees.**
E. W. Brascamp[*], R. F. Veerkamp and P. Bijma, Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands

697 **Genetic Variance Components when Fluctuating Imprinting Patterns are Present.**
I. Blunk[*] and N. Reinsch, Leibniz Institute for Farm Animal Biology, Dummerstorf, Germany

698 **Approximation of Standard Errors of Estimates as a By-Product for MC EM REML Analysis.**
K. Matilainen[*], I. Strandén and E. A. Mäntysaari, MTT Agrifood Research Finland, Biotechnology and Food Research, Jokioinen, Finland

699 **DMU - A Package for Analyzing Multivariate Mixed Models in quantitative Genetics and Genomics.**
P. Madsen[*], J. Jensen, R. Labouriau, O. F. Christensen and G. Sahana, Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark

700 **A New Nonparametric Approach to Delineating Spatial Population Genomic Variation.**
*Z. Hu[1] and R. C. Yang[*1,2], [1]University of Alberta, Edmonton, AB, Canada, [2]Alberta Agriculture and Rural Development, Edmonton, AB, Canada*

701 **Genetic Analysis of Micro-environmental Plasticity in *Drosophila melanogaster*.**
*F. Morgante[*1], D. A. Sorensen[2], P. Sørensen[2], C. Maltecca[3] and T. F. Mackay[1], [1]Department of Biological Sciences, North Carolina State University, Raleigh, [2]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [3]North Carolina State University, Raleigh*

Posters: Breeding in Aquaculture Species (Group 2)
Chair: William S. Davidson, Simon Fraser Universiy, Thomas Moen, AquaGen AS, and Roberto Neira, University of Chile, Aquainnovo

Presentation Time: 3:30 PM – 4:00 PM

783 **Effects of Inbreeding on Body Weight at Harvest Size and Grow-Out Survival Rate in a Selected Population of Pacific White Shrimp Penaeus (Litopenaeus) vannamei.**
*L. De los Ríos-Pérez[*1], G. R. Campos-Montes[2], A. Martínez-Ortega[3], H. Castillo-Juárez[2] and H. H. Montaldo[4], [1]Universidad Nacional Autónoma de México, México, Mexico, [2]Universidad Autónoma Metropolitana, DF, Mexico, [3]Maricultura del Pacífico S.A. de C.V., México, Mexico, [4]Universidad Nacional Autónoma de México, DF, Mexico*

784 **Compensation of Loss in Genetic Gain Due to Genotype by Environment Interaction by Increasing the Size of the Breeding Nucleus in an Aquaculture Population.**
B. Gjerde, H. M. Nielsen[*] and P. Sae-Lim, Nofima, Ås, Norway

785 **Genetic Bases of Resistance versus Susceptibility to Flavobacterium psychrophilum in Rainbow Trout.**
*E. Quillet[*1], N. Dechamp[2], C. Hervet[3], F. Krieg[3], C. Chantry-Darmon[4], M. Boussaha[5], A. Bérard[6,7], V. Laurens[8,9], T. Rochat[10], E. Duchaud[10], P. Boudinot[11], J. F. Bernardet[10] and C. Michel[10], [1]INRA, UMR 1313 GABI, Jouy en Josas, France, [2]INRA, UMR 1313 GABI, Jouy-en-Josas, France, [3]INRA, UMR 1313 GABI, Jouy-en-Josas, France, [4]LABOGENA, Jouy-en-Josas, France, [5]INRA, UMR1313 GABI, Jouy-en-Josas, France, [6]INRA, US 1279 EPGV (Etude du Polymorphisme des Génomes Végétaux), Evry, France, [7]CEA/Institut de Génomique/Centre National de Génotypage, Evry, France, [8]INSERM UMR 866, Dijon, France, [9]Université de Bourgogne, Institut Fédératif de Recherche Santé STIC, Dijon, France, [10]INRA, UR 892 VIM, Jouy-en-Josas, France, [11]INRA, UR 892 VIM, Jouy en Josas, France*

786 **Characterisation Of Myofibrillar and Sarcoplasmic Muscle Proteins Of African Catfish: Clarias Gariepinus, Heterobranchus Bidorsalis and Their Reciprocal Hybrids.**
O. O. T. Agbebi[*] and S. S. O. Shofela, Federal University of Agriculture, Abeokuta, Nigeria

787 **Genetic Analysis of Shape in Trout using Image Analysis.**
H. Komen[*], Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands

788 **Accuracy of Genomic Selection for BCWD Resistance in Rainbow Trout.**
R. L. Vallejo[*], T. D. Leeds, S. Liu, G. Gao, T. J. Welch, G. D. Wiens and Y. Palti, NCCCWA-ARS-USDA, Kearneysville, WV

789 **Integrating Quantitative Genetics and Practical Sspects in a Fish Breeding Network in Denmark.**
*K. Meier[*1], A. C. Sørensen[2], E. Norberg[2] and B. Thomsen[3], [1]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Aarhus, Denmark, [2]Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark, [3]Danish Aquaculture Organization, Silkeborg, Denmark*

Posters: Genetics of Trait Complexes: Growth and Development (Group 2)
Chair: Michael D. MacNeil, Kansas State University

Presentation Time: 3:30 PM – 4:00 PM

595 **Genome-Wide Linkage Disequilibrium Linkage Analysis (LDLA) of Body Fat Traits in an F2 Porcine Model for Human Obesity.**
*S. D. Pant[*1], P. K. Mortensen[1], S. C. Salicio[1], L. J. Kogelman[1], M. J. Jacobsen[1], C. S. Bruun[1], C. B. Jørgensen[1], T. H. E. Meuwissen[2], H. N. Kadarmideen[1] and M. Fredholm[1], [1]Department of Clinical Veterinary and Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark, [2]Department of Animal and Aquacultural Sciences, University of Life Sciences, Ås, Norway*

596 **RNA Sequencing Analysis Identifies Retinoic Acid Pathway Genes as Differentially Expressed in Animals with Extreme Intramuscular Fat GEBVs in Nellore Steers.**
*A. S. M. Cesar[1], L. C. A. Regitano[2], J. E. Koltes[3], E. Fritz-Waters[3], G. Gasparin[4], G. B. Mourao[5], D. P. D. Lanna[6], J. M. Reecy[3] and L. L. Coutinho[*7], [1]University of Sao Paulo, Piracicaba, Brazil, [2]Embrapa Pecuária Sudeste, São Carlos, Brazil, [3]Iowa State University, Ames, [4]University of São Paulo/ESALQ, Piracicaba, Brazil, [5]Department of Animal Science, University of São Paulo/ESALQ, Piracicaba, Brazil, [6]University of Sao Paulo / ESALQ, Piracicaba, Brazil, [7]Universidade de São Paulo/Esalq, Piracicaba, Brazil*

597 **Estimation of Direct and Maternal Genetic Effect on Weaning Weight and Average Daily Gain to Wean in Japanese Black Cattle.**
A. Supriyantono[*], The State University of Papua, Manokwari, Indonesia

598 **Response to Selection for Intramuscular Content and Correlated Responses in Carcass and Meat Traits in Rabbits.**
M. Martinez- Alvaro[*], Universitat Politècnica de València, Valencia, Spain

599 **Genome-Wide Association Study on Body Weight Reveals Major Loci on OAR6 in Australian Merino Sheep.**
*H. A. Al-Mamun[*1], S. Clark[1], P. Kwan[1] and C. Gondro[2], [1]University of New England, Armidale, Australia, [2]School of Environmental & Rural Science, University of New England, Armidale, Australia*

600 **Genome-Wide QTL Mapping of Body Composition and Bone Mineral Density Traits in Pigs.**
*S. Rothammer[*1], P. V. Kremer[2], M. Bernau[3], I. Fernandez-Figares Ibanez[4], J. Pfister-Schär[1], I. Medugorac[1] and A. M. Scholz[3], [1]Chair of Animal Genetics and Husbandry, LMU, Munich, Germany, [2]University of Applied Sciences Weihenstephan-Triesdorf, Weidenbach, Germany, [3]Livestock Center of the Faculty of Veterinary Medicine, LMU, Munich, Germany, [4]CSIC, Estación Experimental del Zaidín, Granada, Spain*

601 **MyoD1 Expression Levels Affect Meat Tenderness in Nellore Beef Cattle.**
*P. C. Tizioto[1], G. Gasparin[2], L. L. Coutinho[3], G. B. Mourao[4], M. A. Mudadu[5], M. M. Souza[1], W. Malagó Jr[6], F. A. Donatoni Bressani[7], R. R. Tullio[7], R. T. Nassu[7] and L. C. A. Regitano[*5], [1]Federal University of São Carlos, São Carlos, Brazil, [2]University of São Paulo/ESALQ, Piracicaba, Brazil, [3]Universidade de São Paulo/Esalq, Piracicaba, Brazil, [4]Department of Animal Science, University of São Paulo/ESALQ, Piracicaba, Brazil, [5]Embrapa Pecuária Sudeste, São Carlos, Brazil, [6]Embrapa Southeast Livestock, SAO CARLOS, Brazil, [7]Embrapa Southeast Livestock, Sao Carlos, Brazil*

602 **Estimation Of Genetic Parameters For Body Weight From Birth To 10 Years Old In Nellore Females.**
*J. N. S. G. Cyrillo[*1], J. V. Portes[2], M. E. Z. Mercadante[1], S. F. M. Bonilha[1], L. T. Dias[2] and R. H. Branco[1], [1]Centro APTA Bovinos de Corte, Instituto de Zootecnia, Sertãozinho-SP, Brazil, [2]Universidade Federal do Paraná, Curitiba, Brazil*

603 **A Novel SNP Polymorphism in the Ovine Leptin Gene Related to Back Fat Depth.**
F. A. Rodríguez-Almeida[*], D. E. Briones, M. E. Burrola-Barraza, J. A. Grado Ahuir and I. A. García-Galicia, Universidad Autónoma de Chihuahua, Chihuahua, Mexico

604 **Estimation of Genetic (Co)variances of von Bertalanffy and Gompertz Growth Function Parameters in Pigs.**
*J. M. Coyne[*1], M. L. Sevon-Aimonen[2], D. P. Berry[3], E. A. Mäntysaari[2], J. Juga[4] and N. McHugh[5], [1]Teagasc Moorepark, Fermoy, Cork, Ireland, [2]MTT Agrifood Research Finland, Jokioinen, Finland, [3]Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, [4]Department of Agricultural Sciences, University of Helsinki, Helsinki, Finland, [5]Teagasc Moorepark, Fermoy, Ireland*

605 **Genome Wide Association for Growth Curve Parameters in Brahman Cattle.**
*A. Camporez Crispim[*1], M. J. Kelly[2], F. F. Silva[1], M. R. Fortes[3], S. E. Guimaraes[1], P. S. Lopes[1] and S. S. Moore[3], [1]Universidade Federal de Viçosa, Viçosa, Brazil, [2]The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, Brisbane, Australia, [3]The University of Queensland, Queensland Alliance for Agriculture and Food Innovation, St Lucia, Australia*

606 **Genetic Analysis of Growth in Performance Tested Young Bulls accounting for Indirect Genetic Effects.**
C. Sartori[*], Department of Agronomy Food Natural resources Animals and Environment, University of Padua, Legnaro (PD), Italy

607 **Identification of Epistatic Interactions Among Fatty Acid Traits, in Angus Sired Beef Cattle.**
L. M. Kramer[*], Iowa State University - Department of Animal Science, Ames

608 **Genome-wide Association Study For Carcass Traits in Simmental Cattle Based on High-density SNP Chip.**
J. Li[*], X. Qi and J. Zhang, Institute of Animal Science of Chinese Academy of Agricultural Sciences, Beijing, China, Beijing, China

Posters: Management of Animal Genetic Resources (Group 2)
Chair: Michèle Tixier-Boichard, INRA

Presentation Time: 3:30 PM – 4:00 PM

449 **Lactation Curve Modeling for Murrah and Surti Buffalo Breeds in Sri Lanka.**
C. M. Dematawewa[*], University of Peradeniya, Peradeniya, Sri Lanka

450 **Assessment of Generation Interval and Inbreeding in a Peruvian Alpaca Population.**
*J. Vilela[*1] and V. Montenegro[2], [1]Universidad Nacional Agraria La Molina, Lima, Peru, [2]D-Agros Perú Consultant, Lima, Peru*

Posters: Statistical Methods - Linear and Nonlinear Models (Group 2)
Chair: Marco C.A.M. Bink, Biometris, Wageningen UR

Presentation Time: 3:30 PM – 4:00 PM

702 **Genomic Prediction Within Family Combining Linkage Disequilibrium and Cosegregation Information.**
J. Zeng[*], Iowa State University, Ames

703 **Acceleration of Computations in AI REML for Single-Step GBLUP Models.**
*Y. Masuda[*1,2], I. Aguilar[3], S. Tsuruta[1] and I. Misztal[1], [1]University of Georgia, Athens, [2]Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Japan, [3]INIA, Las Brujas, Uruguay*

704 **Exploring Extensions and Properties of Expectation-Maximization Methods for Whole Genome Prediction.**
C. Chen[*], H. Wang, W. Yang and R. J. Tempelman, Michigan State University, East Lansing

705 **Using Factor Analysis Modeling Multiple Traits in Genetic Improvement of Nelore Beef Cattle.**
*M. J. Yokoo[*1], G. de los Campos[2], G. J. M. Rosa[3], F. F. Cardoso[1], B. P. Sollero[4], L. L. Cardoso[5], R. B. Lôbo[6] and L. G. Albuquerque[7], [1]Embrapa Southern Region Animal Husbandry, Bage, Brazil, [2]University of Alabama at Birmingham, Birmingham, AL, [3]University of Wisconsin, Madison, [4]Embrapa Southern Region Animal Husbandry, Bagé, Bagé, Brazil, [5]Coordination for the Improvement of Higher Level Personnel (CAPES/PNPD), Brasilia, Brazil, [6]ANCP-Brazilian Society of Breeders and Researchers, Ribeirão Preto, Brazil, [7]State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil*

706 **Joint Prediction of Multiple Quantitative Traits using a Bayesian Multivariate Antedependence Model.**
J. Jiang, Q. Zhang and J. F. Liu[*], China Agricultural University, Beijing, China

707 **Efficient Approximations of the Inverse of a Part of the Additive Relationship Matrix.**
*P. H. Faux[*1] and N. Gengler[2], [1]University of Liège, Gembloux, Belgium, [2]University of Liege, Gembloux Agro-Bio Tech, Gembloux, Belgium*

708 **Extension to Haplotypes of Genomic Evaluation Algorithms.**
*P. Croiseau[*1], M. N. Fouilloux[2], D. Jonas[1,3,4], S. Fritz[1,4], A. Baur[1,4], V. Ducrocq[1], F. Phocas[1] and D. Boichard[1], [1]INRA, UMR1313 GABI, Jouy-en-Josas, France, [2]Institut de l'Elevage - Idele, Jouy-en-Josas, France, [3]AgroParisTech, Paris, France, [4]UNCEIA, Paris, France*