



<h2>Ruminant Genetics and Genomics Workshop</h2>
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Organised by a Standing Committee: YES NO

Meeting information

Date: July 6, 2023
Time: 14:00-17:30
Number of participants: 65-70

Chair

Name: Shannon Clarke
Affiliation: AgResearch, New Zealand
Contact email: shannon.clarke@agresearch.co.nz

Co-Chair (optional)

Name:
Affiliation:
Contact email:

Agenda

Ruminant Genetics and Genomics (orals)	
Chair(s): Shannon Clarke, AgResearch Mosgiel, New Zealand	
Location: Hall 8	
Date & Time: Thursday, July 6, 2:00 PM - 5:30 PM	
2:00 PM	89826 Analysis of differential isoform usage in production relevant tissues across pre- and post-natal development in sheep. S.A. Woolley ¹ , J.G.D Prendergast ¹ , M. Salavati ^{1,2} , and E.L. Clark* ¹ , ¹ <i>The Roslin Institute, Edinburgh, Midlothian, UK</i> , ² <i>SRUC, Edinburgh, Midlothian, UK</i> .
2:20 PM	89670 Identification the genetic resistance genes and biosynthesis pathways to gastrointestinal nematodes infection in goat using RNA-sequencing. Ali Akbar Bhuiyan ¹ , Anjuman Bhuyan* ² , Ayesha Shiddika Afsana ³ , Shuhong Zhao ⁴ , and Xiaoyong Du ⁴ , ¹ <i>Bangladesh Agricultural Research Council, Dhaka, Dhaka, Bangladesh</i> , ² <i>National Institute of Biotechnology, Savar, Dhaka, Bangladesh</i> , ³ <i>Bangladesh Livestock Research Institute, Savar, Dhaka, Bangladesh</i> , ⁴ <i>Huazhong Agricultural University, Wuhan, Hubei, China</i> , ⁵ <i>Huazhong Agricultural University, Wuhan, Hubei, China</i> .
2:40 PM	89716 A continent-wide genomic resource for African buffalo (<i>Syncerus caffer</i>). Liam Morrison* ^{1,2} , ¹ <i>Roslin Institute, University of Edinburgh, Edinburgh, UK</i> , ² <i>Centre for Tropical Livestock Genetics and Health, University of Edinburgh, Edinburgh, UK</i> .
2:55 PM	89653 A time-resolved multi-omics atlas of transcriptional regulation in response to high-altitude hypoxia across the whole-body tissues. Ze Yan* ¹ and Menghua Li ¹ , ¹ <i>China Agricultural University, BeiJing, China</i> , ² <i>China Agricultural University, BeiJing, China</i> .
3:10 PM	89803 CNV mapping and CNV contribution to genetic variance of complex traits in dairy cattle. GC Ladeira ¹ , PJ Pinedo ² , JEP Santos ¹ , WW Thatcher ¹ , and FM Rezende* ¹ , ¹ <i>University of Florida, University of Florida, Gainesville, FL, US</i> , ² <i>Colorado State University, Colorado State University, Fort Collins, CO, US</i> .
3:25 PM	Tea/Coffee Break, Exhibition and Poster Viewing.
4:00 PM	89598 International Sheep Genomics Consortium: providing underpinning resources for the sheep research community. S. M. Clarke* ¹ , R. Brauning ¹ , and International Sheep Genomics Consortium ² , ¹ <i>AgResearch, Mosgiel, Otago, New Zealand</i> , ² <i>sheephapmap.org, International Sheep Genomics Consortium</i> .

4:20 PM	89623	<p>Functional mapping of alternative polyadenylation in cattle. Zhihua Jiang*¹, Brenda M. Murdoch², Clare Gill³, Honglin Jiang⁴, Pablo J. Ross⁵, Huaijun Zhou⁵, James M. Reecy⁶, James E. Koltes⁶, Monique Rijnkels³, Stephanie McKay⁷, Timothy P.L. Smith⁸, Wansheng Liu⁹, Jennifer J. Michal¹, Martin Maquivar¹, Miranda Bernhardt¹, ¹<i>Washington State University, Pullman, WA, USA</i>, ²<i>University of Idaho, Moscow, ID, USA</i>, ³<i>Texas A&M University, College Station, TX, USA</i>, ⁴<i>Virginia Tech, Blacksburg, Virginia, USA</i>, ⁵<i>University of California Davis, Davis, CA, USA</i>, ⁶<i>Iowa State University, Ames, IA, USA</i>, ⁷<i>University of Vermont, Burlington, VT, USA</i>, ⁸<i>U.S. Meat Animal Research Center, Clay Center, NE, USA</i>, ⁹<i>Pennsylvania State University, University Park, PA, USA</i>.</p>
4:35 PM	89687	<p>Insights into the genetic variation, gene-flow and demographic history of African cattle breeds Insights into the genetic variation, gene-flow and demographic history of African cattle breeds. MB Malima^{1,2}, KS Nxumalo¹, A Tijjani^{3,4}, ML Makgahlela*¹, F Joubert², and AA Zwane¹, ¹<i>Department of Animal Breeding and Genetics, Agricultural Research Council-Animal Production Irene, Pretoria, South Africa</i>, ²<i>Centre for Bioinformatics and Computational Biology, Department of Biochemistry, Genetics and Microbiology, University of Pretoria, Pretoria, South Africa</i>, ³<i>International Livestock Research Institute (ILRI), Addis Ababa, Ethiopia</i>, ⁴<i>The Centre for Tropical Livestock Genetics and Health (CTLGH), The Roslin Institute, The University of Edinburgh, Midlothian, UK</i>.</p>
4:50 PM	89585	<p>ISAG Bursary Award: Size and composition of haplotype reference panels impact the accuracy of imputation from low-pass sequencing in cattle. A. Lloret-Villas*, H. Pausch, and A. Leonard, <i>ETH Zürich, Universitätstrasse 2, 8092, Zürich, Switzerland</i></p>
5:05 PM	89545	<p>ISAG Bursary Award: Pangenomes of haplotype-resolved assemblies enable population-scale genotyping of cattle structural variation for eQTL mapping. AS Leonard*, XM Mapel, and H Pausch, <i>ETH Zurich, Zurich, Switzerland</i>.</p>
5:20 PM		<p>Business Meeting.</p>

Summary of the meeting

This workshop included ten invited speakers presenting research on genetics and genomics in ruminants. The committee selected speakers to represent different species, institutions, geographic locations, and disciplines. Two late changes to the program were made due to two speakers unable to attend. The agenda in the report is what was presented at the meeting but differs from the published scientific program for one presentation; *Living in two extremes: Convergent nucleotide evolution and parallel selection in cold- and*

heat-resistant cattle breeds and wild animals- presenter unable to attend and therefore *International Sheep Genomics Consortium: providing underpinning resources for the sheep research community* was presented in the 4pm time slot. An ISAG bursary recipient was able to accept invitation for oral presentation, although this change is reflected in the on-line program.

The business meeting was held at the end of the workshop. The committee had several members that had served two terms, including the chair, and therefore new elections were undertaken. We would like to thank Heather Huson, Laercio Porto-Neto, Michelle Mousel and Shannon Clarke for their two terms of service on the Ruminant Genetics and Genomics committee. Imtiaz Randhawa, Siham Rahmatalla and Zhihua Jiang will enter their second term and we welcome new committee members (nominated and voted by show of hands at the business meeting) Simon Lashmar, George Msalya, Wansheng Liu and Brenda Murdoch. Following the election of these four members, Brenda Murdoch was elected as chair and the business meeting was closed. The Co-Chair to be confirmed at a later date by the new committee.

New Committee chair

Chair: Brenda Murdoch
Term of service: 2023-2029
Affiliation: University of Idaho
E-mail address: bmurdoch@uidaho.edu

Co-Chair: To be confirmed by the new committee
Term of service:

Committee members (the new committee)

Other committee members	First term of service (from year to year)	Second term of service (from year to year)	Email address
Brenda Murdoch	2023 elected	-	bmurdoch@uidaho.edu
Simon Lashmar	2023 elected	-	lashmars@arc.agric.za
George Msalya	2023 elected	-	msalya@sua.ac.tz
Wansheng Liu	2023 elected	-	Liuwul12@psu.edu
Imtiaz Randhawa	2021,2023	2025-	i.randhawa@uq.edu.au
Siham Rahmatalla	2021, 2023	2025-	rahmatas@hu-berlin.de
Zhihua Jiang	2021, 2023	2025-	jiangz@wsu.edu

COMPARISON TEST (2020-2021) YES **NO**

SIGNATURES



Shannon Clarke
Chair