



ISAG Workshop on Genome Edited Farm Animals

Organized by a standing committee: Yes.

Meeting information:

Date: Wednesday, July 5, 2023.
Time: 08:30-10:15 am.
Number of participants: ~50.

Chair:

Name: Xiaolong Wang (represented on-site by Peter Kalds).
Affiliation: Northwest A&F University, Yangling, China.
Contact emails: XLW (xiaolongwang@nwfau.edu.cn); PK (peterkalds@nwfau.edu.cn).

Agenda

No.	Title, authors, and affiliations	OP No.*	P No.**	Notes
(A) Abstracts with oral presentations and posters:				
1	Rethinking the genetic basis of pregnancy recognition in ruminants: Pregnancy in type I interferon receptor (<i>IFNAR2</i>) knockout sheep. <i>C. J. Davies</i> *1,2, <i>E. K. Peterson</i> 1,2, <i>M. J. Brothers</i> 1,2, <i>A. J. Thomas</i> 1,2, <i>H. M. Rutigliano</i> 1, <i>Y.-M. Lee</i> 1, and <i>I. A. Polejaeva</i> 1, <i>1</i> Department of Animal, Dairy & Veterinary Sciences, Utah State University, Logan, UT, <i>2</i> Center for Integrated Biosystems, Utah State University, Logan, UT.	OP130	P170	Able to attend (on-site presentation)
2	Validation of the <i>PDGFD</i> gene function in sheep tail formation using base editing-induced start codon silencing. <i>P. Kalds</i> *1,2, <i>S. Zhou</i> 1,3, <i>S. Huang</i> 1, <i>K. Sun</i> 1, <i>Y. Gao</i> 1, <i>J. Han</i> 4,5, <i>Y. Chen</i> 1, and <i>X. Wang</i> 1, <i>1</i> Key Laboratory of Animal Genetics, Breeding and Reproduction of Shaanxi Province, College of Animal Science and Technology, Northwest A&F University, Yangling, China, <i>2</i> Department of Animal and Poultry Production, Faculty of Environmental Agricultural Sciences, Arish University, El-Arish, Egypt, <i>3</i> College of Veterinary Medicine, Northwest A&F University, Yangling, China, <i>4</i> CAAS-ILRI Joint Laboratory on Livestock and Forage Genetic Resources, Institute of Animal Science, Chinese Academy of Agricultural Sciences (CAAS), Beijing, China, <i>5</i> Livestock Genetics Program, International Livestock Research Institute (ILRI), Nairobi, Kenya.	OP131	P172	Able to attend (on-site presentation)
3	SAG Bursary Award: Field-deployable nucleic acid detection with RAVI-CRISPR. <i>D. Tao</i> 1, <i>B. Xu</i> 1, <i>S. Li</i> 1, <i>C. Zhao</i> 1, <i>S. Zhao</i> 1,2, <i>X. Li</i> 1,3, and <i>S. Xie</i> *1,3, <i>1</i> Key Laboratory of Agricultural Animal Genetics, Breeding and Reproduction of Ministry of Education & Key Lab of Swine Genetics and Breeding of Ministry of Agriculture and Rural Affairs, Huazhong Agricultural University, Wuhan, China, <i>2</i> The Cooperative Innovation Center for Sustainable Pig Production, Huazhong Agricultural University, Wuhan, China, <i>3</i> Hubei Hongshan Laboratory, Frontiers Science Center for Animal Breeding and Sustainable	OP132	P169	Able to attend (on-site presentation)

	<i>Production, Wuhan, China.</i>			
4	ISAG Bursary Award: sgRNAs9-AI: A program for prediction of CRISPR/Cas9 and its variant sgRNA activity using deep learning. <i>S. Li1, X. Zhang*2, S. Zhao1,3, C. Zhao1,4, and S. Xie1,4, 1Key Laboratory of Agricultural Animal Genetics, Breeding and Reproduction of Ministry of Education & Key Lab of Swine Genetics and Breeding of Ministry of Agriculture and Rural Affairs, Huazhong Agricultural University, Wuhan, China, 2Institute for Animal Breeding and Genetics, University of Veterinary Medicine Hannover, Hannover, Germany, 3Hubei Hongshan Laboratory, Huazhong Agricultural University, Wuhan, China, 4The Cooperative Innovation Center for Sustainable Pig Production, Huazhong Agricultural University, Wuhan, China.</i>	OP133	P171	Unable to attend (no on-site presentation)
5	Evaluation of the resistance of Liang Guang Small Spotted pigs with partial deletion of the CD163 SRCR5 domain to porcine reproductive and respiratory syndrome virus 2 infection. <i>Y. Wu*, X. Liu, Y. Chen, and Z. He, School of Life Sciences, Sun Yat-sen University, Guangzhou, Guangdong, China.</i>	OP128	P168	Unable to attend (no on-site presentation; withdrawn)
6	Molecular Characterization of the Follicular Development of BMP15-edited Pigs. <i>Tiantuan Jiang*1,2, Yafei Jiao1,2, Qiyuan Lin1,2, Xiaohong Liu1,2, Peiqing Cong1,2, Yaosheng Chen1,2, and Zuyong He1,2, 1State Key Laboratory of Biocontrol, Guangzhou, China, 2School of Life Sciences, Sun Yat-sen University, Guangzhou, China.</i>	OP129	P167	Withdrawn
(A) Abstracts with posters only:				
7	Drosophila melanogaster (fruit fly): A platform for anticancer drug discovery and development. <i>S. Malindisa* and M. Ntwasa, University of South Africa, Florida, Johannesburg, South Africa.</i>	×	P165	No response to accept an OP invitation
8	Genome editing of VNN gene in Sparidae and Moronidae cell lines. <i>L. Sanchez*, A. Arana, and D. Robledo, University of Santiago de Compostela, Lugo, Spain.</i>	×	P166	Rejected the OP invitation (withdrawn)

*OP: Oral presentation; **P: Poster; ×: Poster only. The green color indicates actual on-site oral presentations, while the red color indicates withdrawals or an inability to attend.

Summary of the meeting

The ISAG-2023 was successfully held in Cape Town, South Africa, on July 2-7, 2023. Due to essential academic commitments, Prof. Xiaolong Wang could not attend the meeting in person this year. However, he proposed his lab's member, Dr. Peter Kalds, to chair the “*Genome Edited Farm Animals*” session with the assistance of Dr. Cate Modiba.

The session originally included eight abstracts (P165, P166, P167, P168, P169, P170, P171, and P172), considering the recent application of genome editing tools in animal systems. Of these eight abstracts, six were selected as oral presentations [P167 (OP129), P168 (OP128), P169 (OP132), P170 (OP130), P171 (OP133), and P172 (OP131)]. However, at the end, three abstracts were on-site presented by C. J. Davies, P. Kalds, and S. Xie, respectively [P170 (OP130), P172 (OP131), and P169 (OP132)].

The session was fruitful, and discussions were held at the end of each oral presentation. At the end of the session, an announcement was made to call new committee members for “*Genome Edited Farm Animals*” committee. Irina Polejaeva (Utah State University, USA) and Shengsong Xie (Huazhong Agricultural University, China) had proposed themselves as new committee members, and their proposals were accepted.

Committee chair

Chair: Xiaolong Wang.
Term of service: 2023-2025.
Affiliation: Northwest A&F University, Yangling, China.
Email address: xiaolongwang@nwafu.edu.cn .

Committee members

Name	Term of service	Email address
Tad Sonstegard	2023-2025	tad@recombinetics.com
Irina Polejaeva	2023-2025	irina.polejaeva@usu.edu
Shengsong Xie	2023-2025	ssxie@mail.hzau.edu.cn