

ISAG-FAO Advisory Group on Animal Genetic Diversity

Organised by a Standing Committee: YES

Meeting information

Date: July 4 th 2023
Time: Scientific Session 14-15:30, 16-18 South African time, Advisory Board meeting 18:10-18:50
Number of participants: 90 (Scientific Session)

Chair

Name: Juha Kantanen
Affiliation: Natural Resources Institute Finland, Jokioinen, Finland
Contact email: juha.kantanen@luke.fi

Co-Chair (optional)

Name: Catarina Ginja
Affiliation: CIBIO-InBIO, Universidade do Porto, Portugal
Contact email: catarinaginja@cibio.up.pt



INTERNATIONAL SOCIETY FOR ANIMAL GENETICS

Agenda

Oral presentations

Genomic tools for the monitoring of genetic diversity. P Boettcher

Genetic characterization of deleterious alleles in traditional cattle populations in Europe and Africa.
Richard Crooijmans

Genetic structure of Criollo sheep populations with Iberian and African breeds. MA Revidatti

An insight into whole genome resequencing data of Indian native goats with global breeds reveals high within breed genetic diversity and distinct population structure. Nandhini Balasubramaniam

Differences in effective population sizes and breed contributions to genetic variation in Estonian farm animal breeds. Erkki Sild

Genetic diversity of Clydesdale and Shire draft horses with implications for management. Jessica L. Petersen

History and genetic diversity of African sheep: perpendicular contrasts of phenotypes and genomic diversity. Johannes Lenstra

An archaeogenomics study of Iron Age cattle from Althiburos, Tunisia. Catarina Ginja

Temporal changes in genomic diversity of the northernmost cattle populations in Europe. Melak Weldenegodguad

Admixed ancestry or independent race: a phylogenetic meta-analysis on the phylogeography of Philippine chickens. CJP Godinez

Multiple origins and genetic diversity of Philippine native pigs. J.B. Banayo

The first *Rangifer tarandus* Y chromosomal phylogeny. Elif Bozlak

Adipose gene expression profiles of four cattle breeds highlight selective pressures and tissue functions. D Ruvinskiy

Reference genome of the native Finnhorse as a tool to study the adaptation of northern Eurasian horse breeds. Kisun Pokharel

Workshop Committee Business Meeting

Summary of the meeting

The meeting agenda was sent on the 24th May 2023 to the members of the Standing Committee. The business meeting was organised as a hybrid meeting, and it was possible to participate also on-line using a zoom link.

The following Standing Committee members were present in the meeting:

Paul Boettcher, Richard Crooijmans, Catarina Ginja, Johannes Lenstra, Jessica L. Petersen and Juha Kantanen (chairman), and on-line Licia Colli, Han Jianlin, Satish Kumar, Axel Villalobos and François Pompanon.

1. Feedback on the Session program and presentations.

In total, there were 14 oral presentations in the ISAG-FAO Session on Animal Genetic Diversity, and 18 posters including also the oral presentations' posters.

The oral presentations were chosen in such a way that they dealt with several different domestic animal species and the animal genetic resources of different continents. There were five oral presentations on cattle, one on chicken, one on goat, three on horses, one on pig, one on semi-domestic reindeer, two on sheep and one presentation focussed on genomic tools for genetic resource characterization. Moreover, the data sets analysed in these studies were as follows: whole-genome sequencing, whole-genome SNP genotyping, mtDNA, aDNA genomic and mtDNA sequencing, Y-chromosomal SNP-markers and autosomal microsatellites.

In addition, there were posters on pigs (3) and chicken (1). The data sets presented in the posters were mtDNA, autosomal microsatellites and phenotypic data.

The Standing Committee discussed about the selection of abstracts for different sessions. At the ISAG2023 conference, abstracts were submitted directly to the session considered most suitable by the researchers. However, the Standing Committee considered that the previous practice of ISAG conferences, where the most suitable abstracts for each session were selected as oral presentations from among all the abstracts submitted to the conference, could be a more appropriate practice. The Standing Committee would like to propose that at future ISAG conferences this previously applied abstract selection practice could be considered.

2. Members of the Committee, possible new members

Members of the current (2023) committee were as follows:

Member	Terms of service
Juha Kantanen, chair	1st, 2019-2023, Reindeer
Catarina Ginja, co-chair	2nd, 2021-2025, Cattle
Paul Boettcher, secretary, FAO-AGAG	Multiple, 2008-2023
Licia Colli	1st, 2019-2023, Goat
Roy Costilla	1st, 2019-2023, Cattle Genomics
Richard Crooijmans	1st, 2019-2023, Pig
Jianlin Han	Multiple, 2014-2023, Camelids, Yak

Satish Kumar	2nd, 2019-2023, Water Buffalo
Johannes Lenstra	Multiple, 2008-2023, Cattle Genetic Diversity
Sheila Ommeh	1st, 2019-2023, Other Poultry Species
Jessica Petersen	2nd, 2021-2025, Horse
François Pompanon	1st, 2019-2023, Sheep
Axel Villalobos Cortes	1st, 2019-2023
Steffen Weigend	Multiple, 2008-2023, Chicken

Sheila Ommeh, Steffen Weigend and Satish Kumar informed by e-mails (23rd May 2023, 24th May 2023 and 1st June 2023, respectively) chairman JK that they will not continue on the Standing Committee.

Chairman JK proposed that in the new Standing Committee there would be only one new poultry expert so that the number of members will be 13 (in the current Standing Committee there are 14 members), and two new members will be nominated. One new member will act as an expert in poultry genetics and genetic resources and the other new member as an expert in water buffalo genetics and genetic resources. The Standing Committee members supported these proposals.

Chairman JK proposed that a candidate for the water buffalo genetics/genomics/genetic resources would be Dr. Muniyandi NAGARAJAN, who would replace Prof Satish Kumar. Dr. Nagarajan works as an Associate Professor, in Dept. of Genomic Science, School of Biological sciences, Central University of Kerala, Kasaragod, Kerala, India. www.cukerala.ac.in; Orcid id: 0000-0001-8328-9767

Chairman JK proposed that a candidate for the poultry genetics/genomics/genetic resources would be Dr. Mervi HONKATUKIA, who would replace Prof Steffen Weigend and Dr Sheila Ommeh. Dr. Honkatukia works as a Section Leader at NordGen – Nordic Genetic Resources, Ås, Norway. www.nordgen.org/eng; Orcid id: 0000-0003-4839-2931

The Standing Committee members supported these proposals and Dr Nagarajan and Dr Honkatukia were nominated as new members of the Standing Committee.

The new Standing Committee from 2023 is as follows:

Member	Emails
Juha Kantanen, chair	juha.kantanen@luke.fi
Catarina Ginja, co-chair	catarinaginja@cibio.up.pt
Paul Boettcher, secretary, FAO-AGAG	Paul.Boettcher@fao.org
Licia Colli	licia.colli@unicatt.it
Roy Costilla	r.costilla@uq.edu.au
Richard Crooijmans	richard.crooijmans@wur.nl
Jianlin Han	H.JIANLIN@cgiar.org
Mervi Honkatukia	mervi.honkatukia@nordgen.org
Johannes Lenstra	J.A.Lenstra@uu.nl
Muniyandi Nagarajan	nagarajan@cukerala.ac.in
Jessica Petersen	jessica.petersen@unl.edu
François Pompanon	francois.pompanon@univ-grenoble-alpes.fr
Axel Villalobos Cortes	villalobos.axel@gmail.com

New Committee chair

Chair:
Term of service <i>(add years of first and second term of service):</i>
Affiliation:
E-mail address:

New Committee co-chair (optional)

Chair:
Term of service <i>(add years of first and second term of service):</i>
Affiliation:
E-mail address:

Note: One term runs for two bi-annual conferences (i.e. four years)

New Committee members

Other committee members	First term of service (from year to year)	Second term of service (from year to year)	Email address
Mervi Honkatukia	2023-2027		mervi.honkatukia@nordgen.org
Muniyandi Nagarajan	2023-2027		nagarajan@cukerala.ac.in

3. Other issues

The FAO Guidelines for genomic characterization of animal genetic resources was published. Ajmone-Marsan, P., Boettcher, P.J., Colli, L., Ginja, C, Kantanen J. & Lenstra, J.A., eds. 2023. Genomic characterization of animal genetic resources – Practical guide. FAO Animal Production and Health Guidelines No. 32. Rome.

<https://doi.org/10.4060/cc3079en>



FAO webinar on “Genomic characterization of animal genetic resources” was organized on the 14th December 2022. About 200 participants on-line. Presentations of the webinar were as follows (<https://www.fao.org/animal-genetics/events/intergovernmental-technical-working-group-on-anagr/webinars/en/>):


Presentation files

Presenter	Title
Christian Looft , FAO and University of Applied Sciences, Neubrandenburg, Germany	The conservation of animal genetic resources in an international context
Paul Boettcher , FAO	The basics of genomic diversity studies
Paolo Ajmone-Marsan , Università Cattolica del Sacro Cuore, Piacenza, Italy	Genomic tools and methods
Catarina Ginja , BIOPOLIS/CIBIO/InBIO, Universidade do Porto, Vairão, Portugal	Applications of genomics
Juha Kantanen , Natural Resources Institute Finland, Jokioinen, Finland	Identification of genomic regions subject to selection
Johannes A Lenstra , Utrecht University, Netherlands	The “Golden trio” and overall recommendations

Co-Chair GC presented a new networking project IBEROAMERICAN NETWORK ON THE ZOOGENOMIC RESOURCES AND THEIR RESILIENCE – REZGEN-IBA, coordinated by Catarina Ginja, University of Porto, Portugal and Amparo Martinez – University of Cordoba, Spain. The main objective of the REZGEN-IBA network is to design a continent-wide program for the characterization, conservation, recognition, and valuation of the Ibero-American zoogenetic heritage. The network is funded by the Ibero-American Programme on Science and Technology for Development (CYTED), a network on Ibero-American zoogenomic resources and their resilience. The REZGEN-IBA brings together 164 researchers and breeders from 16 countries for a complete integration of data and a well-structured analysis following common protocols.

In the business meeting, it was decided that the Standing Committee will organise a webinar in 2023 on animal genomics and animal genetic resources in collaboration with FAO. A more detailed date, topic of the webinar and presentations will be decided later. More to follow.

SIGNATURES

21st August 2023


Chair *Juha Kantanen*