



Microbiomes

Organised by a Standing Committee: YES

Meeting information

Date: July 3rd 2023
Time: 14:00 - 17:30 am
Number of participants: ~65

Chair

Name: Jordi Estellé
Affiliation: Université Paris-Saclay, INRAE, AgroParisTech, GABI, 78350 Jouy-en-Josas, France
Contact email: jordi.estelle@inrae.fr

Co-Chair (optional)

Name: Farai Muchadeyi
Affiliation: Agricultural Research Council, Biotechnology Platform, Private Bag X5, Onderstepoort, Pretoria, South Africa
Contact email: MuchadeyiF@arc.agric.za

Agenda

2:00 PM OP27: *Analysis of the gut microbiome sheds insights into breed resilience to challenges of antimicrobial resistance in Dohne Merino sheep.* A. Khwela, E. F. Dzomba, R. Pierneef, and **F. C. Muchadeyi**

2:15 PM OP28: *Using a Snakemake workflow for metagenomic analysis of sheep rumen microbiome divergently selected for methane emissions.* B. Parry, A. Kim, H. Henry, T. Bilton, A. McCulloch, K. McRae, **S. Clarke**, P. Janssen, J. McEwan, and S. Rowe

2:30 PM OP29: *ISAG Bursary Award: Study of gut microbes and body metabolism function between Dorper and Tan sheep.* **Y. Ma**, X. Yang, G. Hua, G. Cai, X. Li, D. Feng, and X. Deng

2:45 PM OP30: *Comparative metagenomic along the gut biogeography of indigenous chicken.* **A. Tangomo Ngnintedem**, E. Machuka, B. Waweru, J.-B. Domelevo Entfellner, M. Gitau Gicheha, J. Maina Kagira, R. Pelle, A. Djikeng, and C. Keambou Tiambo. (Note: **speaker not present**)

Flash talks :

3:00 PM OP31: *Bacterial diversity associated with feeding Boschveld chicken with the South African red sorghum variety.* **N. Nemukondeni**, C. A. Mbajjorgu, A. N. Sebola, O. M. Letsoalo, T. Mafuna, and M. Mabelebele

3:05 PM OP32: *Bacterial metagenomics sequencing of chickens fed tannins.* **T. Manyelo**, E. Malematja, N. Sebola, S. Kolobe, and M. Mabelebele. (Note: **speaker not present**)

3:10 PM OP33: *High-throughput metagenomic characterization of the fecal microbiota of peste des petits ruminants–infected West African Dwarf goats.* **I. Muritala**, B. O. Sodimu, M. N. Bemji, M. A. Busari, G. F. Farayola, S. Saleem, N. Kumari, S. Jaiswal, M. A. Iquebal, S. M. Ahmad, A. O. Sonibare, M. Wheto, and E. M. Ibeagha-Awemu

3:15 PM OP34 : *ISAG Bursary Award: Nasal microbiome diversity in West African Dwarf goats with peste des petits ruminants viral infection.* **I. Muritala**, M. N. Bemji, M. A. Busari, B. O. Sodimu, S. M. Ahmad, A. Negi, S. Jaiswal, M. A. Iquebal, B. Bhat, M. O. Ozoje, O. L. Ajayi, and E. M. Ibeagha-Awemu

3:20 PM OP35: *Optimising metagenomic sequencing: A comparative study of ONT Adaptive Sampling strategies to improve microbial DNA recovery.* **E. L. Reinoso-Peláez**, M. Saura, C. González, F. Puente-Sánchez, and M. Serrano

3:25 PM Questions on flash talks

3:30 PM Tea/Coffee break

4:00 PM OP36: *Possible coevolution of balanced polymorphisms in the pig host and its intestinal microbiome.* **C. Hupperts**, M. Mni, W. Coppieters, C. Charlier, and M. Georges

4:15 PM OP37: *Genetic selection of the host drives gut microbiota enterotypes across generations.* **J. Estellé**, C. Larzul, M. Borey, F. Blanc, G. Lemonnier, Y. Billon, M. Thiam, B. Quinquis, N. Galleron, D. Jarret, J. Lecardonnell, F. Plaza-Oñate, and C. Rogel-Gaillard

4:30 PM OP38: *Differential miRNA profile in response to dietary treatment and their possible impact in the host-microbiota genetic regulation.* T. Porto, T. Cardoso, J. Bruscardin, L. Conteville, P. Oliveira 1 , G. Mourao 3 , L. Coutinho 3 , A. Zerlotini 4 , J. Reecy 5 , and **L. Regitano**

Flash talks :

4:45 PM OP39: *Host genomic regions associated with ewes' vaginal microbiota.* **M. Ramon**, E. Reinoso-Pelaez, M. Saura, O. González-Recio, C. Gonzalez, R. Arias, M. Pérez-Guzman, I. Beltrán de Heredia, J. Calvo, and M. Serrano

4:50 PM OP40: *Links between gut microbiome functions and feed efficiency in growing pigs fed a conventional or a high-fiber diet.* A. Cazals, O. Zemb, V. Déru, J. Bidanel, H. Gilbert, and **J. Estellé**

4:55 PM OP41: *Comparison of rumen microbial analysis pipelines based on 16S rRNA gene sequencing.* **X. Ye**, Z. Cai, and M. Lund. (Note: **speaker not present**)

5:00 PM OP42: *Exploring links between porcine genome copy number variants, the diversity and composition of pig gut eukaryote and prokaryote microbial communities.* **M. Ballester**, D. Crespo-Piazuelo, J. Morata, L. Ramírez, O. González-Rodríguez, C. Sebastià, A. Castelló, A. Dalmau, S. E. Ramos-Onsins, K. Alexiou, J. M. Folch, R. Quintanilla, and Y. Ramayo-Caldas

5:05 PM OP43: *Impact of the vaginal microbiota on the pregnancy rate by artificial insemination in three Spanish sheep breeds.* E. L. Reinoso, F. Puente-Sánchez, C. González, J. H. Calvo, M. Serrano, and **M. Saura**

5:10 PM OP44: *Preliminary results: Bacterial abundance in the microbiome from South African beef faecal samples through 16SrRNA targeted sequencing.* O. P. Monchusi, K. P. Montso, C. N. Ateba, A. A. Zwane, and **M. M. Makgahlela**

5:15 PM Questions on flash talks

5:20 PM - Meeting of Microbiomes Committee.

Summary of the meeting

The workshop was chaired by Jordi Estellé with the help of Farai Muchadeyi, who acted as co-chair in replacement of Oscar González-Recio.

General comments:

1. The chair, co-chairs, the other members of the Standing Committee and the participants are grateful to the ISAG executive committee for allowing the opportunity to propose for a fourth time a workshop on animal microbiomes. The first Microbiomes workshop was organized during the ISAG conference in Dublin (2017), the second in Lleida (2019), and the third one was on-line (2021). The current workshop is thus the fourth consecutive one, and the first being organised by a Standing Committee.

2. The chair and co-chair thank all speakers for excellent presentations and all attendees for their active participation during the time slots dedicated to questions and discussion.

3. A three-hour session was organised, with seven 15-min talks and eleven flash talks of 5 minutes. Talks covered various species (sheep, chickens, goats, pigs and cattle) and also methodological issues, and were given by a panel of young and established researchers from eight countries and five continents. Unfortunately, three of the speakers were not present at the time scheduled for their talks (one 15-min talk and two flash talks). As happened in other workshops during the conference, due to lack of reaction time we maintained the timing of the rest of the agenda.

4. The high quality of the abstracts and presentations and the number of attendees (with peaks having over 70 participants) have confirmed the relevance to consider animal microbiomes as a research field of interest for the ISAG community. In addition, Leluo Guan, an invited speaker proposed by the Microbiomes Standing Committee, was selected for one-hour presentation in the plenary session Tuesday in the morning. Thus, we foresee that microbiome questions will remain as a relevant topic for future conferences.

Discussion and decisions:

1. This year the Standing Committee agreed to propose a mix of 15-min talks and flash talks, allowing all abstracts to present their results in the workshop. There is the agreement that if the number of abstracts allows to continue with this choice, this option will be privileged for the next conference in 2025.



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2. After request of the ISAG executive committee, we exchanged on the organisation of the conference and the growing number of parallel sessions in the ISAG conference. Given the specificity of the topic in our workshop, we anticipate that it can be difficult to combine it with other topics and have a shared workshop with other committees. However, we also agree that a high number of parallel sessions is a potential issue that will be discussed in ISAG executive committee.

3. In the on-line conference organised in 2021 it was agreed that the Chair and co-chair roles will be exchanged at mid-term. Accordingly, we organised a vote to validate this exchange, which received unanimous support. Thus, until 2025 Oscar González Recio will act as Chair of the Microbiomes Standing Committee and Jordi Estellé will be the co-chair.

4. The committee currently has 6 members elected in 2021. Therefore, there is the opportunity to include a seventh member. We asked for volunteers, specially from Asia or America continent to complement the country origins from the current members. Luciana Regitano from EMBRAPA in Brazil volunteered as member and there was unanimous vote to accept her candidature. She will be member of the Microbiomes Standing Committee from 2023 to 2027.

New Committee chair

Chair: Oscar González-Recio

Term of service (*add years of first and second term of service*): 2021-2025

Affiliation: Departamento de mejora genética animal, INIA-CSIC, 28040 Madrid, Spain

E-mail address: gonzalez.oscar@inia.csic.es

New Committee co-chair (optional)

Co-chair: Jordi Estellé

Term of service (*add years of first and second term of service*): 2021-2025

Affiliation: Université Paris-Saclay, INRAE, AgroParisTech, GABI, 78350 Jouy-en-Josas, France

E-mail address: jordi.estelle@inrae.fr



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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
Peter Karlskov-Mortensen	2021-2025	-	pkm@sund.ku.dk
Farai Muchadeyi	2021-2025	-	MuchadeyiF@arc.agric.za
Suzanne Rowe	2021-2025	-	Suzanne.Rowe@agresearch.co.nz
Mick Watson	2021-2025	-	mick.watson@dsm.com
Luciana Regitano	2023-2027	-	luciana.regitano@embrapa.br

COMPARISON TEST : NO

SIGNATURE

Jordi Estellé

Chair