



**BovReg Final conference**  
**University Foundation - Room Felicien Cattier**  
**Brussels**  
**14-15 February 2024**

Day 1 - 14 February 2024		
Time	Sessions	Chair
09:30 - 10:30	<b>Overview of the BovReg Project</b>	Christa Kühn (FBN)
10:30 - 11:15	<b>Cattle Genome Annotation</b> <ul style="list-style-type: none"> <li>Gabriel Costa (University of Liege) - Building a cattle high-quality epigenome map: the BovReg contribution</li> <li>Lijing Tang (University of Liege) - GWAS reveals determinants of mobilization rate and dynamics of an active endogenous retrovirus of cattle</li> </ul>	Carole Charlier (University of Liege)
11:15 - 11:45	<b>Coffee break</b>	
11:45 - 12:30	<b>In vitro Models</b> <ul style="list-style-type: none"> <li>Arpna Sharma (FBN) - Isolation and characterization of (primary) bovine luteal cells</li> <li>Doreen Becker (FBN) Structural and functional characterization of five bovine cell lines</li> <li>Marion Schmicke (TiHo) - Modelling of Animal cells for Research</li> </ul>	Jens Venselow (FBN)
12:30 - 13:30	<b>Lunch break</b>	
13:30 - 14:30	<b>Bioinformatic Tools and Databases</b> <ul style="list-style-type: none"> <li>Peter Harrison (EMBL-EBI) - EuroFAANG Data Infrastructure: standardizing and presenting BovReg and, global FAANG, data</li> <li>José Espinosa-Carrasco (CRG) - BovReg contribution to the adoption of nf-core as the EuroFAANG computational standard</li> <li>Bjorn Langer (CRG) - Functional data extrapolation across species</li> </ul>	Peter Harrison (EMBL-EBI)
14:30 - 15:00	<b>Epigenome Sensitivity</b> <ul style="list-style-type: none"> <li>Jens Vanselow (FBN) Effects of summer heat on in vitro fertility performance and possible epigenetic mechanisms of intergenerational transmission to offspring bulls</li> </ul>	Christa Kühn (FBN)

	<ul style="list-style-type: none"> <li>Gabriel Costa (University of Liege) - Monitoring of environmental effects on the (epi)genome of bovine embryos: a view on chromatin accessibility</li> </ul>	
<b>15:00 - 15:30</b>	<b>Global non-livestock perspectives</b> <ul style="list-style-type: none"> <li>Fergal Martin (EMBL-EBI)</li> </ul>	Christa Kühn (FBN)
<b>15:30 - 16:00</b>	<b>Coffee break</b>	
<b>16:00 - 16:30</b>	<b>US FAANG Perspective</b> <ul style="list-style-type: none"> <li>James Koltes (Iowa University) - Perspectives and Discoveries from the US Bovine FAANG project</li> </ul>	Graham Plastow (University of Alberta)
<b>19:30</b>	<b>Networking dinner</b>	

Day 2 - 15 February 2024		
Time	Sessions	Chair
09:00 - 09:30	<b>Industry Perspective of FAANG</b> <ul style="list-style-type: none"> <li>• Clotilde Patry (ELIANCE) - From improved knowledge on (epi)genome to improved genomic selection tools: benefits and expectation for the cattle breeding industry</li> <li>• Ruidong Xiang (Agricultural Victoria Research) - Identifying regulatory variants to enhance mapping and prediction of cattle traits</li> </ul>	Didier Boichard
09:30 - 11:00	<b>Molecular and Zootechnical Phenotype Variation</b> <ul style="list-style-type: none"> <li>• Marie Pierre Sanchez (INRAE) - Meta-GWAS for beef production traits</li> <li>• Goutham Sahana (Aarhus University) - Meta-GWAS reveals biologically relevant candidate genes for mastitis resistance in dairy cattle</li> <li>• Birgit Gredler (WUR) - GWAS for feed intake and methane emission across cattle populations</li> <li>• Praveen Chitneedi (FBN) - Comprehensive BovReg eQTL Nextflow workflow and application on BovReg data sets</li> </ul>	Marie Pierre Sanchez (INRAE)
11:00 - 11:30	<b>Coffee break</b>	
11:30 - 12:00	<b>Detection of regulatory genes and variants</b> <ul style="list-style-type: none"> <li>• Hiroaki Taniguchi (IGBZ PAN) - Functional Validation of SNPs in Specific Traits by Utilizing Molecular Tools</li> <li>• Siddarth Jayaraman (UEDIN) - Detecting phenotype-associated genes by combining gene expression and GWAS summary statistics</li> </ul>	James Prendergast (UEDIN)
12:00 - 13:00	<b>Application of Genomic Variant Information into Cattle Breeding</b> <ul style="list-style-type: none"> <li>• Emre Karaman (Aarhus University) - Biology informed genomic predictions for mastitis in Danish Jersey and Nordic Red cattle</li> <li>• Renzo Bonifazi (WUR) &amp; Marzieh Heidari (University of Alberta) - Biology-driven WGS genomic predictions for feed efficiency within and across-breeds</li> <li>• Pascal Croiseau (INRAE) - Genomic evaluation including genomic feature information in the Montbéliarde and Normande breeds</li> <li>• Arash Chegini (LUKE) - Multiple-trait single-step genomic prediction of udder health traits in Nordic Red and Jersey cattle applying alternative SNP weighting</li> </ul>	Birgit Gredler (WUR)

<b>13:00 - 13:45</b>	<b>Lunch break</b>	
<b>13:45 - 14:15</b>	<b>The Ethical and Societal Dimensions of Genome Information Assisted Breeding: the Importance of Public Engagement</b> <ul style="list-style-type: none"> <li>• Koen Kramer (University of Utrecht) - Ethical game changers and grains of sand: on how to do ethics of livestock breeding</li> <li>• Donald Bruce (EDINETHICS) and Anne Bruce (UEDIN) - Playing the BovReg Democs Game: What did people say about cattle breeding?</li> </ul>	Franck Meijboom (University of Utrecht)
<b>14:15 - 15:15</b>	<b>Invited talks from</b> <ul style="list-style-type: none"> <li>• Sigbjørn Lien (NMBU) - AQUA-FAANG: Advancing European Aquaculture by Genome Functional Annotation</li> <li>• Elisabetta Giuffra (INRAE) - Aims, results and impacts of H2020 GENE-SWitCH (The regulatory GENomE of SWine and Chicken: functional annotation during development)</li> <li>• Amanda Chamberlain (Agricultural Victoria Research) - Which functional information is useful for prioritization of causal variants for complex traits?</li> <li>• Yuliaxis Ramayo (IRTA) - Decoding Ruminant Microbiomes: Ongoing Contributions of the HoloRuminant Project</li> </ul>	Christa Kühn (FBN)
<b>15:15 - 15:30</b>	<b>EuroFAANG RI Ambitions</b> <ul style="list-style-type: none"> <li>• Klaus Wimmers (FBN) - EuroFAANG - an Infrastructure for Farmed Animal Genotype to Phenotype Research in Europe</li> </ul>	Emily Clark (The Roslin Institute)
<b>15:30 - 16:00</b>	<b>Coffee break</b>	
<b>16:00 - 17:00</b>	<b>Panel discussion</b> <b>Future of Functional Annotation beyond BovReg</b> Carole Charlier (University of Liege), Elisabetta Giuffra (INRAE), Amanda Chamberlain (Agricultural Victoria Research), Christa Kühn (FBN)	Chris Tuggle (University of Iowa)
<b>17:00 - 17:15</b>	<b>Closure of the Final Conference</b>	
		Christa Kühn (FBN)