



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

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

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

13:00 - 13:45	Lunch break	
13:45 - 14:15	The Ethical and Societal Dimensions of Genome Information Assisted Breeding: the Importance of Public Engagement <ul style="list-style-type: none"> • Koen Kramer (University of Utrecht) - Ethical game changers and grains of sand: on how to do ethics of livestock breeding • Donald Bruce (EDINETHICS) and Ann Bruce (UEDIN) - Playing the BovReg Democs Game: What did people say about cattle breeding? 	Franck Meijboom (University of Utrecht)
14:15 - 15:15	Invited talks from <ul style="list-style-type: none"> • Sigbjørn Lien (NMBU) - AQUA-FAANG: Advancing European Aquaculture by Genome Functional Annotation • Elisabetta Giuffra (INRAE) - Aims, results and impacts of H2020 GENE-SWitCH (The regulatory GENomE of SWine and Chicken: functional annotation during development) • Amanda Chamberlain (Agricultural Victoria Research) - Which functional information is useful for prioritization of causal variants for complex traits? • Yuliaxis Ramayo (IRTA) - Decoding Ruminant Microbiomes: Ongoing Contributions of the HoloRuminant Project 	Christa Kühn (FBN)
15:15 - 15:30	EuroFAANG RI Ambitions <ul style="list-style-type: none"> • Klaus Wimmers (FBN) - EuroFAANG - An Infrastructure for Farmed Animal Genotype to Phenotype Research in Europe 	Emily Clark (The Roslin Institute)
15:30 - 15:40	<ul style="list-style-type: none"> • Jimena Arango-Montanez (Research Executive Agency) - D&E commitments and support services for BovReg 	Christa Kühn (FBN)
15:40 - 16:00	Coffee break	
16:00 - 17:00	Panel discussion Future of Functional Annotation beyond BovReg Carole Charlier (University of Liege), Elisabetta Giuffra (INRAE), Amanda Chamberlain (Agricultural Victoria Research), James Koltes (Iowa University), Christa Kühn (FBN)	Emily Clark (The Roslin Institute)
17:00 - 17:15	Closure of the Final Conference	Christa Kühn (FBN)