

Comparative & Functional Genomics Workshop

Organised by a Standing Committee: YES

Meeting information

Date: Monday 3rd July 2023

Time: 14:00 PM - 17:30 PM

Number of participants: 70-80

Chair

Name: Cristina Óvilo on behalf of Christa Kühn

Affiliation: INIA-CSIC

Contact email: ovilo@inia.csic.es

Co-Chair (optional)

Name:

Affiliation:

Contact email:

Agenda

Comparative and Functional Genomics

SYMPOSIA AND ORAL SESSIONS

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| Comparative and Functional Genomics (orals) Chair(s): Cristina Óvilo, INIA-CSIC, on behalf of Christa Kühn, FBN Germany Location: Orchid Date & Time: Monday, July 3, 14:00 PM - 17:30 PM | |
| 2:00 PM | 89536 Exploring tissue-specificity in the regulatory landscape of bovine genome. G Costa Monteiro Moreira* ¹ , C Yuan ¹ , S Dupont ¹ , L Tang ¹ , YL Lee ¹ , D Becker ² , M Salavati ³ , R Clark ⁴ , EL Clark ³ , G Plastow ⁵ , C Kühn ^{2,6} , C Charlier ¹ , and BovReg consortium ⁷ , ¹ <i>Unit of Animal Genomics, GIGA Institute, University of Liège, Liège, Belgium</i> , ² <i>Faculty of Agricultural and Environmental Sciences, University Rostock, Rostock, Germany</i> , ³ <i>The Roslin Institute, University of Edinburgh, Edinburgh, UK</i> , ⁴ <i>Genetics Core, Edinburgh Clinical Research Facility, The University of Edinburgh, Edinburgh, UK</i> , ⁵ <i>Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, Canada</i> , ⁶ <i>Institute of Genome Biology, Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany</i> , ⁷ https://www.bovreg.eu/project/consortium/ . |
| 2:15 PM | 89595 A multi-tissue porcine single-cell immune atlas: resources for comparative and systems immunology. CK Tuggle* ^{1,2} , LN Daharsh ¹ , M Kapoor ^{1,2} , P BK ² , SK Sivasankaran ³ , KA Byrne ³ , J Herrera-Uribe ¹ , and CL Loving ³ , ¹ <i>Department of Animal Science, Iowa State University, Ames, IA, USA</i> , ² <i>Bioinformatics and Computation Biology, Iowa State University, Ames, IA, USA</i> , ³ <i>USDA-Agriculture Research Service, National Animal Disease Center, Food Safety and Enteric Pathogens Research Unit, Ames, IA, USA</i> . |
| 2:30 PM | 89462 Single cell atlas of developing ovine tail tissue reveals multi cellular origins contributing to fat deposition. Jiangang Han* ^{1,2} , ¹ <i>Institute of Animal Science, Chinese Academy of Agriculture Science, Beijing, China</i> , ² <i>School of Agriculture and Food Science, University College Dublin, Dublin, Ireland</i> . |
| 2:45 PM | 89847 A multi-omic approach to understanding genetic and phenotypic variation in mass reared Black Soldier Flies (<i>Hermetia illucens</i>). C. Rhode*, K. Hull, and M. Greenwood, <i>Stellenbosch University, Stellenbosch, Western Cape, South Africa</i> . |
| 3:00 PM | 89555 Ribosome profiling reveals stage-specific translational regulation during muscle differentiation. Anna Goldkamp* ¹ , Lillian Okamoto ² , Kara Thornton ² , and Darren |

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| Hagen ¹ , ¹ Oklahoma State University, Stillwater, OK, USA, ² Utah State University, Logan, UT, USA. | |
| 3:15 PM 89794 | Chromosome conformation comparison in Piedmontese x Gaur F1 Fetal Muscle Tissue. Morgan R Stegemiller* ¹ , Kristen L Kuhn ² , Timothy PL Smith ² , Benjamin D Rosen ³ , and Brenda M Murdoch ¹ , ¹ University of Idaho, Department of Animal, Veterinary, and Food Sciences, Moscow, Idaho, USA, ² USDA, ARS, U.S. Meat Animal Research Center, Clay Center, Nebraska, USA, ³ USDA, ARS, Animal Genomics and Improvement Laboratory, Beltsville, Maryland, USA. |
| 3:30 PM | Tea/Coffee Break, Exhibition and Poster Viewing. |
| 4:00 PM 89423 | DNA methylation dynamics regulating embryonic development in pig. J de Vos* ¹ , M Derks ¹ , H Acloque ² , S Djebali ³ , S Foissac ⁴ , C Guyomar ⁴ , C Kurylo ⁴ , E Giuffra ² , M Groenen ¹ , and O Madsen ¹ , ¹ Animal Breeding and Genomics, Wageningen University, Wageningen, The Netherland, ² Paris-Saclay University, INRAE, AgroParisTech, GABI, Jouy-en-Josas, France, ³ IRSD, Université de Toulouse, INSERM, INRA, ENVT, UPS, Toulouse, France, ⁴ GenPhySE, Université de Toulouse, INRAE, ENVT, Toulouse, France. |
| 4:15 | Genomic and functional characterization of frequently used bovine cell lines. D. Becker* ¹ , G.C.M. Moreira ² , C. Mörke ¹ , M. Charles ³ , F. Hadlich ¹ , C. Lopez-Roques ¹⁰ , M. Schmicke ⁴ , V. Blanchet ⁵ , H. Taniguchi ⁶ , E. Clark ⁷ , C. Pfarrer ⁸ , J. Vanselow ¹ , C. Charlier ² , D. Rocha ³ , C. Kuehn ^{1,11} , ¹ Research Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, ² Unit of Animal Genomics, GIGA, Liege, Belgium, ³ INRAE, Jouy-en-Josas, France, ⁴ Veterinary Endocrinology and Laboratory Diagnostics, University of Veterinary Medicine Hannover, Foundation, Hannover, Germany, ⁵ Unité de Génétique Moléculaire Animale (UGMA), University of Limoges, Limoges, France, ⁶ Institute of Genetics & Animal Biotechnology, Polish Academy of Sciences, Magdalenka, Poland, ⁷ The Roslin Institute, Edinburgh, UK, ⁸ Institute of Anatomy, University of Veterinary Medicine Hannover, Foundation, Hannover, Germany, ⁹ Agricultural and Environmental Faculty, University Rostock, Rostock, Germany, ¹⁰ INRAE, US 1426, GeT-PlaGe, Genotoul, Castanet-Tolosan, France, ¹¹ Agricultural and Environmental Faculty, University Rostock, Rostock, Germany |
| 4:30 89841 | Competing endogenous RNA (ceRNA) in a non-model animal: Non-coding RNAs respond to heat stress in rainbow trout (<i>Oncorhynchus mykiss</i>) through ceRNA-regulated mechanisms J. Quan*, Gansu Agricultural University, Lanzhou, China |
| 4:45 89429 | ISAG Bursary Award: Functional variants associated with male fertility in reproductive tissues of Brown Swiss bulls. X. Mapel*, N. Kadri, Q. He, A. Leonard, A. Lloret-Villas, and H. Pausch, ETH Zürich, Zürich, Switzerland |

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| 5:00 | 89575 | Transcriptome and histological analysis of skin Brangus cattle under heat stress conditions P. Alvarez Cecco*, M. Balbi, M. Bonamy, A. Rogberg-Muñoz, L. H. Olivera, G. Giovambattista, and M. E. Fernández. <i>Intituto de Genética Veterinaria (IGEVET), Facultad de Ciencias Veterinarias, Universidad Nacional de La Plata, La Plata, Buenos Aires, Argentina, 2 Instituto de investigaciones en Producción Animal (INPA), Universidad de Buenos Aires, CONICET, Buenos Aires, Buenos Aires, Argentina</i> |
| 5:15 PM | | Business meeting. |

Summary of the meeting

An interesting program of oral communications was organised by the committee with 11 presentations of 15' each. Unfortunately, two speakers did not show up, without any notice (J. Quan and P. Alvarez Cecco) leaving two empty time slots of 15 minutes, which could not be used in order to respect the schedule. This fact broke a little the dynamics of the workshop, but the presented talks were very interesting and there were good discussions with attendants.

Attendance was remarkable (70-80 attendees), especially taking into account the relevant overlapping with all species-specific and microbiome workshops.

The topics of the presentations included regulatory mechanisms, identification of functional variants, single cell omic profiling and epigenetic characterization.

In the business meeting a small number of attendees remained (around 15). There were no nominations nor selection of new committee members as the actual committee has already 7 members; and Dr Christa Kuhn was re-elected as chair of the committee. Following indications of the executive committee, the discussion focused around how to reduce the number of committees/workshops for the next conferences, in order to reduce the increasing overlapping. It was commented that CFG workshop has some overlapping with animal epigenetics and with domestic animal sequencing workshops, and the possibility to “merge” with these other ones was briefly discussed. Specificities of CFG workshop were mentioned and a potential proposal of maintaining two committees (structural genomics and functional genomics) was also raised.

Committee chair

Chair: Christa Kühn

Term of service: 2021-2025

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| Affiliation: Friedrich-Loeffler-Institute (FLI), Germany |
| E-mail address: christa.kuehn@fli.de |

New Committee co-chair (optional)

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| 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)

Committee members

| Other committee members | First term of service (from year to year) | Second term of service (from year to year) | Email address |
|-------------------------|---|--|---------------------------------|
| Cristina Ovilo | 2016-2020 | 2021-2025 | ovilo@inia.csic.es |
| Marcel Amills | 2021-2025 | | marcel.amills@cragenomica.es |
| Emily Clark | 2021-2025 | | emily.clark@roslin.ed.ac.uk |
| Lingzhao Fang | 2021-2025 | | Lingzhao.fang@ed.ac.uk |
| Eveline Ibeagha-Awemu | 2021-2025 | | eveline.ibeagha-awemu@agr.gc.ca |
| Stephanie McKay | 2021-2025 | | Stephanie.McKay@uvm.edu |

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