

MEDIA INFORMATION

Leibniz Institute for Farm Animal Biology

Dummerstorf, September 17, 2019



LEIBNIZ INSTITUTE
FOR FARM ANIMAL BIOLOGY

Redefining the future of cattle breeding

Scientists from the German Leibniz association coordinate major international research project on cattle genome function Led by FBN, scientists from the EU, Canada and Australia are launching a large-scale research project to identify functions in the genome that are relevant to the diversity and plasticity of phenotypes in cattle (BovReg*).

Twenty leading laboratories from all over the world are participating in the project, their researchers who are from various disciplines, will form a global interdisciplinary team. The EU funded project is co-ordinated by Professor Dr. Christa Kühn, Director of the Institute of Genome Biology, FBN. The total value of funding for the project is 6 million euros and it will run for four years as part of the EU H2020 research programme. "The FBN is the central coordinator of such an important EU project for the first time. In addition to that, we also have two FBN institutes, namely Genome Biology and Reproductive Biology, which provide a major contribution to the consortium," emphasised FBN Director Professor Dr. Klaus Wimmers. The FBN will receive 1.0 million euros EU research funding for this purpose. The official start (kick-off) of the research project, with scientists from 15 partner countries in attendance, will take place on 23 and 24 September in Dummerstorf.

Deciphering the cattle

Within the cattle farming industry there are tensions between an essential role for efficient world nutrition on the one hand and critical discussions regarding animal welfare and environmental consequences on the other. Despite enormous progress in functional genome analysis and molecular biology there are still major gaps in our understanding of the interactions between inherited factors and environmental impact that ultimately shape the phenotype of an animal, e.g. cattle. "The research consortium will therefore generate a comprehensive map of the functionally active regions in the bovine genome and elucidate how genetic variation shapes different breeds, phenotypes or different developmental phases," explained Prof. Christa Kühn. "This key information is urgently needed for sustainable livestock husbandry as well as for basic research".

BovReg will gain detailed knowledge on cattle phenotypes with respect to robustness, health and biological efficiency. The know-how from BovReg should also be particularly applicable in small cattle breeds of regional relevance and distribution and thus contribute to the conservation of biological diversity in farmed animals. The project includes a focus on udder health and options for reducing use of antimicrobials in animal husbandry. In addition to experts in cattle research, numerous scientists with expertise in bioinformatics, molecular genetics, quantitative genetics, animal breeding, reproduction physiology, ethics and the social sciences are represented in the network. International data sharing standards are to be developed from the genetic analyses and new bioinformatic methods established during the project. These will be integrated into the worldwide

molecular biology competence network "Functional Annotation of Animal Genomes (FAANG/animalgenome.org)" and made available to the scientific community. Parallel to the ENCODE initiative (encodeproject.org), which is dedicated to characterizing the function of the human genome, FAANG is working on the identification of functional regulators in animal genomes.

***BovReg - Identification of functionally active genomic features relevant to phenotypic diversity and plasticity in cattle**

<https://cordis.europa.eu/project/rcn/223200/factsheet/en>

The Leibniz Association

The Leibniz Association connects 93 independent research institutions that range in focus from the natural, engineering and environmental sciences via economics, spatial and social sciences to the humanities. Leibniz Institutes address issues of social, economic and ecological relevance. They conduct knowledge-driven and applied basic research, maintain scientific infrastructure and provide research-based services.

The Leibniz Association identifies focus areas for knowledge transfer to policy-makers, academia, business and the public. Leibniz institutions collaborate intensively with universities – in the form of "Leibniz ScienceCampi" (thematic partnerships between university and non-university research institutes), for example – as well as with industry and other partners at home and abroad.

They are subject to an independent evaluation procedure that is unparalleled in its transparency. Due to the importance of the institutions for the country as a whole, they are funded jointly by the Federation and the Länder, employing some 19,100 individuals, including 9,900 researchers. The entire budget of all the institutes is approximately 1.9 billion Euros.

www.leibniz-association.eu

Photo: FBN

Prof. Dr. Christa Kühn and PD Dr. med. Jens Vanselow coordinates the EU project BovReg.

Leading scientists in cattle research worldwide at BovReg's kick-off meeting at the FBN conference centre in Dummerstorf, Germany

You will receive this photo on Monday, 23.09.19 via IDW at about 11:30 a.m.

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