

## PRESS RELEASE

### **GENE-SWitCH Final Conference: Bridging the Gap Between Genomic Research and Applications**

Brussels, Belgium - November 8, 2023

**The GENE-SWitCH Final Conference**, a hybrid event held at the University Foundation in Brussels on November 6-8, 2023, concluded with a resounding success, showcasing the project's groundbreaking research in gene regulation and its potential to revolutionize the pig and poultry sectors.



**GENE-SWitCH** aimed to deliver new underpinning knowledge on the functional genomes of pigs and chickens and to enable its immediate translation to the animal breeding sector. The conference's comprehensive 2-day agenda highlighted the project's achievements and impacts, celebrated the 10 years of the Functional Annotation of Farm ANimal Genomes (FAANG) initiative, and hosted a Policy and Ethics workshop for stakeholders.

The conference began with **Session 1**, which focused on the identification and characterization of functional genomic elements. The five presentations in this session illustrated the identification and temporal dynamics of pig and chicken functional elements across development and how richly annotated genome annotation maps have become available to the whole community.

**Session 2**, titled "Implementing FAANG innovation for precision breeding," featured two presentations on the epigenetic effects of maternal diets rich in fibers on pig fetuses and piglets, followed by six presentations on the development and validation of predictive models able to exploit the new annotation maps for the genomic selection of these species.

### **Session 3, "Celebrating 10 years of FAANG, from FAANG to Fork: Highly annotated genomes as resources to improve farmed animal production,"**

aimed to emphasize the transformative role of highly annotated genomes in advancing farmed animal sciences through a decade of international collaborative progress.

The session included five presentations –an opening talk and four summary talks on GENE-SWitCH main outcomes–, followed by a round table discussion structured in three parts: Genome annotations across developmental phases (Session 1), The epigenetic impact of diets (Session 2), and Genomic selection of swine and poultry (Session 3).

During the round table, the key players from the pig and poultry breeding companies shared their insights on the practical relevance and prospects of these themes for the precision breeding of these species.

Two distinguished invited speakers, Jack C. M. Dekkers (Iowa State University) and Laurent Frantz (Ludwig Maximilian University), offered novel perspectives and angles of discussion with two main talks: "Genetics and genomics of potential indicator traits for disease resilience of grow-finish pigs" and "Ancient DNA, Extinction, Domestication and the Cost of Modern Farming", respectively.

The conference concluded with a Policy and Ethics workshop jointly organized with the GERO-NIMO project. This workshop summarized the complementarity, achievements, and progress of each project, followed by an interactive session on the main ethical issues faced by the animal breeding sector, including researchers and companies, and action points to address these.

***The Final Conference videos are available [here](#)***

### **About GENE-SWitCH**

**GENE-SWitCH** aimed to deliver new underpinning knowledge on the functional genomes of two main monogastric farm species (pig and chicken) and to enable immediate translation to the pig and poultry sectors.

The project was carried out in full coordination and cooperation with global efforts and ongoing projects of the Functional Annotation of Animal Genomes (FAANG) community and has been one of the first founders of the EuroFAANG infrastructure project ([eurofaang.eu](http://eurofaang.eu)).

To learn more about the GENE-SWitCH project, please visit the official project website at [www.gene-switch.eu](http://www.gene-switch.eu)

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