2017 Chair (for 2018 Workshop): Christopher Tuggle (Iowa State University)
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2017 Chair-elect: Christian Maltecca (North Carolina State University)
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The 2018 NRSP-8 Swine Workshop was held January 13, 2018 in San Diego, CA in conjunction with the Plant and Animal Genome XXV1 Conference. A joint session was held with the Cattle, Sheep and Goat Workshop in the morning, and two talks on porcine genomics were provided by Pablo Ross, University of California, Davis and Graham Plastow, University of Alberta, Canada. Dr. Ross described the UC-Davis’s efforts to annotate the porcine genome with RNAseq, histone Chipseq and ATAC-seq methods. Dr. Plastow described a natural challenge model for pig disease resilience that has been funded by Genome Alberta and Genome Canada. A companion project to the Canadian effort was recently funded by USDA-NIFA; this project is headed by Jack Dekkers (Iowa State University).

In the afternoon, the Swine Workshop had 68 persons attending, and the following institutions were represented in the US (Iowa State University, Michigan State University, University of Nebraska-Lincoln, University of Missouri, USDA-ARS-BARC, USDA-ARS-MARC, USDA-ARS-NADC), and outside the US (University of Alberta (Canada), European Bioinformatics Institute (UK), Roslin Institute (UK), Huazhong Ag. University(China)). The afternoon program included two invited presentations by two young scientists Thibaud Hourlier (EBI) and Hamid Beiki (Iowa State), who spoke about their work to annotate the new swine genome assembly. Following these two talks, the group heard from 4 scientists who have short summaries of their posters; these speakers were chosen by the Swine Subcommittee for their interesting poster abstracts. The 2017 Jorgensen Pig Travel Award winners Kaitlyn R. Daza (MSU) and Hiruni Wijesena, (UNL) were then introduced and each gave a lightening talk on their area of research. After the break, Drs. Archie Clutter and Parag Chitnis gave administrator’s reports and Drs. Jim Reecy and Chris Tuggle gave short coordinators’ reports (Bioinformatics and Swine, respectively), as well as conducted a discussion on community needs and resources. Four Swine Subcommittee Station representatives then provided Station reports. The presentations covered a range of topics from functional genomics to gene expression during disease challenge to evaluation of new SNP chips, and sparked discussion among attendees. At the end of the presentations, the group held a roundtable to discuss joint projects that could qualify for funding by the NRSP-8 Swine Coordination funds. Three possible projects were discussed and will be followed up.

During the business meeting, Dr. Dan Ciobanu from University of Nebraska was elected as the new chair-elect, and Christian Maltecca from North Carolina State University will chair the 2019 Swine Workshop covering October 1, 2017-September 30, 2018.

Partial summary of funding awarded to Swine committee scientists (2017 only)
Federal $1,959,966
Industry $113,905
Internal/Institutional $174,401
Total $2,248,272

Impacts 2017
1. NRSP8-supported research has improved the functional annotation of the porcine genome.
2. Application of new long-read technology (PacBio Iso-seq) has increased the depth and breadth of annotation of the new Sscrofa 11.1 assembly.
3. Newly validated genotyping tools will increase the depth of knowledge regarding genetic variation in industry populations.

2016-7 Swine Genome Committee Publications (refereed journal articles)


2016-7 Swine Genome Committee Publications (other publications)


Bertolini, F., K. Zurbrigg, T. van Dreumel, T. O’Sullivan, M.F. Rothschild. 2017. Investigating the genomic basis of pigs that have died in transit. 36th International Society for Animal Genetics Conference, Dublin, Ireland. Abstract #MT246


