

Pig Genome Update #125

October 12, 2017

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1. Recent meetings summary

ISAG 2017

The International Society of Animal Genomics meeting was held in Dublin, Ireland, 16-21 July 2017.

Many posters were directly related to pig genomics, including 12 in the “Pig Genetics and Genomics” and 4 in the “Domestic Animal Sequencing and Annotation” workshop, as well as many posters and talks in species-diverse Workshops such as Animal Epigenetics and Genetics of Immune Response. A new Workshop on Genome Editing, also featured talks on editing the pig genome. The entire Program, including all abstracts and speaker titles, is available: http://www.isag.us/Docs/Proceedings/ISAG2017_Proceedings.pdf?v3

At the ISAG business meeting, the location of the 2019 ISAG meeting was made; it will be hosted by the University of Lleida in Lleida, Spain from July 7-12 (<http://www.isag.us/2019/>) . Presentations for several possible 2021 locations were also made, and the choice at the meeting was for South Africa.

2. Update on new functional genomics project FAANG activities

As described in prior PG Updates, the FAANG Consortium has been organized and held meetings. The following text is a summary of the activities of FAANG since the last PG Update; for further information please see the FAANG website (www.faang.org).

The WWW.FAANG.ORG website, hosted by www.animalgenome.org through the NRSP-8 Bioinformatics Coordination team, has continued to be developed. A new webpage has been developed to provide information on new funding opportunities for FAANG related proposals (see also below; available on FAANG website, member's area page).

3. Update on USDA-NIFA-AFRI

In 2016, Dr. Lakshmi Matukumalli provided guidance to several members of the genome community on the following. He indicated that AFRI Animal Genome:Tools and Resources panel would like to see 4-6 proposals per species submitted for FAANG-related projects, which would be scientifically independent but would be complementary to each other and linked to the overall goals of FAANG. The genome Coordinators were notified of this suggestion and each group is handling any group discussion or coordination.

Chris Tuggle sent out a note to all members of the Swine Sub-committee and a meeting was held at the PAG 2017 conference. When the RFP was published, there was both a Tools and Resources opportunity (\$0.5M) as well as a larger opportunity to develop FAANG-type resources for major agricultural species (\$2.5M). A group developed a plan during 2017 to apply for the \$2.5 M opportunity. The collaborative group included those who had received NRSP-8 funds to develop preliminary data for this opportunity: Iowa State University (C. Tuggle, J. Reecy, J. Koltes), Michigan State University (C. Ernst, J. Steibel), Univ California-Davis (H. Zhou, P. Ross), USDA-ARS-MARC (D. Nonneman, T. Smith), and USDA-ARS-NADC (C. Loving). An application was submitted; we expect to hear by November 2017 on funding.

In 2017, Dr. Matukumalli further indicated that the resources grants will be renewed until all major species have a resource grant. He reiterated that the intent by AFRI is to provide about 3 months between the RFA release and the deadlines. Be sure to read and consider applying for these opportunities! If a letter of support, including matching funds from NRSP-8, would be useful, please let the Co-coordinators know early in the process

4. PAG 2018 meeting registration deadlines.

A reminder that the 26th Plant and Animal Genome Meeting (<http://www.intlpag.org/>), will be held January 13-17, 2018 in San Diego CA (as usual, location is the Town and Country Hotel). This meeting will include the Swine Genome Subcommittee Workshop on January 13. The PAG26 early registration deadline is October 31, 2017 (see: <http://www.intlpag.org/2018/attend/registration-and-fees>), and the abstract submission deadline is October 27, 2017 (see: <https://pag.confex.com/pag/xxvi/cfp.cgi>).

REMINDER- if you or your graduate student is interested in applying for the Neil Jorgensen Travel award, please send Chris Tuggle and Cathy Ernst your application as soon as possible (see: <http://www.intlpag.org/2018/attend/travel-grants>). Applications will be accepted until October 20, 2017, not October 13 as stated on the PAG 26 website.

We are planning a change to the afternoon session of the Swine Subcommittee. Since 2017-8 Federal FY is the last year of this NRSP8 project, we are planning to hold a specific working session as part of the afternoon session. This is an opportunity to discuss joint projects that can be supported substantially by the NRSP-8 funding available. If you are a member of the Swine Subcommittee, there is also support to attend the PAG meeting and participate in this Workshop. Contact the Joint Coordinators if you are interested in travel support to PAG. The plans for the Swine workshop, including the NRSP8-supported talks in the morning joint session with the Cattle/Sheep group, are being developed. Stay tuned for more details!

5. Upcoming additional meetings information

Besides PAG, there are many other meetings of relevance to the genomics community over the next 6-12 months, see: <http://www.animalgenome.org/pig/community/meetings>). Yet in 2017, there is a meeting on “Livestock High-Throughput Phenotyping and Big Data Analytics” in Beltsville MD on November 13-14 (see: <https://www.animalgenome.org/share/meetings/LivestockHTP>).

Two close meetings are the PAG meetings in 2018, as described above, as well as the World Congress on Genetics Applied to Livestock Production to be held in New Zealand 11-16 February 2018 (see: <http://www.wcgalp.com/wcgalp18>). Also, the Midwest ASAS/ADSA Annual Meeting will be 12-14 March 2018 in Omaha, NE (<https://www.asas.org/sections/midwest-section/meetings>), and the National ASAS-CSAS Annual Meeting will be 8-12 July 2018 in Vancouver, Canada (<https://www.asas.org/meetings/annual-2018>).

6. Update on projects supported by NRSP-8 funds- We want to hear from you!

Update on FAANG project: Dr. H. Zhou presented a poster summarizing the FAANG project at the ISAG 2017 meeting. Please email Dr. Zhou at hzhou@ucdavis.edu with any questions.

Update on High Density Genotyping: Two 96 sample assays were processed on the Affymetrix Axiom™ PigHD_V1 Array including samples representative of the Yorkshire, Duroc, Landrace and Hampshire breeds in the US. This genotype data has been evaluated for short-range linkage disequilibrium, and compared to lower density SNP chips to assess imputation accuracy. Please contact Cathy Ernst (ernstc@msu.edu) with any questions.

Update on PacBio Isoseq Data analysis: Illumina and PacBio Isoseq data has been received from Dr. Tim Smith for nine tissues. Error correction of the latter has been completed for all 9 tissues using the Illumina data. A poster on these results is planned for the PAG 2018 meeting. Please email Dr. Chris Tuggle (cktuggle@iastate.edu) or Dr. Tim Smith (Tim.Smith@ARS.USDA.GOV) with any questions.

The swine genome coordinators are always glad to hear from NRSP-8 members and other

readers about ways that the coordination effort can be improved or provide resources that are needed. If you have items of general interest to the swine genetics and genomics communities that can be included in this newsletter please share. Our issues are now planned for February and October each year. Any contribution should be sent to the Coordinators one week prior to these dates.

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