

Pig Genome Update #119

June 15, 2014

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1. Out with the Old, In with the New

Many of you know that there has been a change in the leadership of the USDA Swine Genome Coordination effort, but many scientists probably have not, and we want to also take this opportunity to describe in detail the changes and new policies for this important effort.

a) Many thanks to Max for a job well-done. Chris Tuggle (IA) and Cathy Ernst (MI) were approved late September 2013 to become the new Joint Coordinators, replacing Max Rothschild, the long-time Coordinator. Max has been the Coordinator for 20 years, and ably led the Swine Sub-committee from the beginning of the NRSP-8 project where we were focused on generating linkage maps and physical maps, until October 2013 to a position where we have a very large number of useful tools for genome analysis. Thanks for your leadership, Max!

b) New goals and policies moving forward. Cathy and Chris will be splitting the duties of the Coordinator, and we have developed some goals for the next 5 years. Some past policies we will be continuing, such as the Newsletter and multi-station criteria for funding projects, which was shared with Swine Subcommittee members earlier this year. We are also introducing some new policies. A significant one is the creation of an Advisory Committee, who will provide guidance on policy as well as help evaluate requests for funding. The members of this Advisory Board represent the swine industry, swine genomics and biotechnology researchers, NRSP-8 Stations and participating USDA labs. The members are: Joan Lunney (USDA-BARC), Chris Hostetler (National Pork Board), Randy Prather (U. Missouri), Jack Dekkers (ISU), and Juan P. Steibel (MSU).

An important goal of the Coordinators is increasing the number of Stations and ARS laboratories participating in the Swine Sub-committee. To facilitate this, we offered to pay half of the PAG 2014 registration fees for anyone willing to join the Swine Sub-committee. We welcome one new member, Melissa Merrill, North Carolina State University. If you know of a suitable researcher who should be encouraged to consider joining our group, please let us know and we will follow up. The partial travel support for new members will be provided again next year.

Another goal is to further encourage collaborations within the group and support such group genomics research. What are your needs and how can we help you accomplish collaborative research? We plan to work with the organizers of the next Swine Sub-committee meeting to maximize group discussions on this topic.

c) Communication is important. We plan to produce the Pig Genome Update approximately 3 times per year, timed for our major Genome activities. These will include a February issue, with a PAG summary, a June issue describing summer meetings and research opportunities, and an October issue with PAG meeting announcements and reminders. If there are other methods we can use to facilitate discussion and communication, please don't hesitate to contact us.

2. Role of Species Coordinators

Individual investigator or a team of investigators pursue a research hypothesis or develop an idea into a proposal and can be successful in implementation. However community resources such as databases, big ideas and large projects such as genome sequencing and genotyping assay development require community mobilization and funding coordination with federal agencies, private industries and international partners. NRSP8 genome coordinators provide leadership not only to its members but also for the species community as a whole and will help implement big projects. Hence, I encourage all researchers to stay in close contact with their species coordinators and let them know when you have a big idea or a large project. Chris Tuggle and Cathy Ernst are both great leaders and are committed to serve the swine genomics community.

(Kindly provided by Lakshmi Matukumalli)

3. NIFA Update

a) NIFA is looking for a National program leader in Aquaculture.

(<https://www.usajobs.gov/GetJob/ViewDetails/371716700>)

b) In response to stakeholder comments NIFA is streamlining its business practices for timely release of RFAs annually for AFRI foundational program and challenge areas. Projects supporting animal sciences research can be found in AFRI foundational program and most Challenge areas (Water is a new challenge area introduced this year and is expected to continue). The priorities in the foundational program do not significantly change each year, but the challenge area RFAs are different each year. So please make sure to read the challenge area RFA priorities closely. <http://www.nifa.usda.gov/funding/afri/afri.html>. For easily tracking new NIFA RFAs released on www.grants.gov for automatic email notification:

Register at <http://www.grants.gov/search/subscribeAdvanced.do> and provide CFDA Numbers; AFRI= "10.310" ; SBIR = "10.212"; Higher Education Challenge Grants = "10.217"; Ecology & Evolution of Infectious Diseases = "47.074" (CFDA numbers for other programs are on the NIFA website)

c) NIFA introduced two new programs in the AFRI Foundational RFA this year and are expected to be continued. (See the AFRI foundational RFA for more details)

(i) Exploratory Research Program: For projects that require \$100,000 or less with the following criteria:

new and emerging problems with high potential impact;(2) applications of new knowledge or new approaches to unsolved challenges that have high potential impact;(3) develop tools required tools required to have a paradigm shift in the field; and or,(4) provide a rapid response to natural disasters or similar unanticipated events should consider the Exploratory Program in this solicitation. Applications are accepted year-round.

**Letters of intent for FY 2014 are accepted through September 30, 2014; it is required that a researcher contact the Program Area Priority Contact – Dr. Michel Bowers (202) 401-4510 or mbowers@nifa.usda.gov BEFORE a Letter of Intent is submitted. See the AFRI Foundational pdf (page 31-33; http://www.nifa.usda.gov/funding/rfas/pdfs/14_afri_foundation_mod.pdf).

(ii) Critical Agricultural Research and Extension (CARE) To address critical problems that impede the efficient production and protection of agriculturally-important plants and animals. These problems may be local, regional, or national, and may call for work focused on one or more scientific disciplines.

However, all need immediate attention to meet producer needs. Finding and implementing solutions to these critical problems require partnership and close coordination among researchers, extension experts, and producers. Funded projects will quickly yield solutions or practices that can be rapidly implemented by producers. Proposal budget is up to \$150,000.

(Kindly provided by Lakshmi Matukumalli).

4. Pig SNP Arrays Available from GeneSeek

GeneSeek, a Neogen Company, currently offers two custom Illumina Infinium BeadChips for genomic profiling of pigs. The GeneSeek Genomic Profiler for Porcine LD features approximately 8,500 SNPs for high density chip imputation. This chip also includes several genetic markers that may directly impact disease and performance traits. The Genomic Profiler for Porcine HD is the most comprehensive commercial genome-wide BeadChip for the porcine genome, and it features nearly 70,000 SNPs specifically chosen for high minor allele frequency that uniformly span the porcine genome. This BeadChip also includes several genetic markers that may directly impact disease and performance traits. For more information: geneseekinfo@neogen.com, or www.neogenagrigenomics.com. The annotation information is available from the NAGRP Data Repository (http://www.animalgenome.org/repository/pig/Pig70K_SNP_annotations.csv.gz) thanks to Jeremy Walker (JWalker@neogen.com) for providing the information.

5. We want to hear from you!

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.

6. Upcoming meetings

(for meetings of relevance to the genomics community over the next 6-12 months, see:

<http://www.animalgenome.org/pigs/community/meetings>)

Because of its importance, a special highlight for the quadrennial World Congress is provided below.

World Congress 2014

The 10th World Congress on Genetics Applied to Livestock Production (WCGALP) is being held from 17-22 August 2014 at the Westin Bayshore Conference Center in Vancouver, British Columbia, Canada. The WCGALP takes place every four years, and researchers and professionals involved in livestock genetic improvement from around the world gather to attend the scientific program and network with colleagues. This year's conference will have a strong swine section with approximately 60 talks and posters being presented by scientists from around the world. Genomics will feature strongly in the oral sessions on Monday, Tuesday and Thursday (2 sessions), and there will be sessions on swine genetics on Wednesday and Friday. Swine symposia include "Omics and Swine: From GWAS to Small Panels and QTN" with invited speakers LuSheng Huang, John Bastiaansen and Brian Kinghorn; "Genomics of Disease in Swine" with invited speakers Daniel Ciobanu, Larry Schaeffer and Ning Li; and "Utilizing Whole Genome Sequence Information in Swine Breeding" with invited speakers Max Rothschild, Robert Kemp and John Hickey. Information provided by Graham Plastow and Filippo Miglior; More information: <http://www.wcgalp.com/>.

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<http://www.animalgenome.org/pig/>