



Pig Genome Update

No. 59 March 1, 2003

Nearly 2000 people came to sunny San Diego to attend PAGXI. As in past years, this year's meeting was another big success. The meetings started off with the usual large number of workshops (see below for swine report) and were followed by some excellent plenary talks, workshops and posters. For the first time, PAG had a Nobel Laureate speak and the talk was quite stimulating as well as entertaining. Dr. Sydney Brenner articulated his thoughts on "The Way Ahead" by emphasizing his theme that biology should address the organisms of interest and suggested that model organism work should now be limited. Dr. Sue DeNise of MMI Genomics described their advanced system of SNP detection and their plans for application to bovine genome mapping and association studies. A number of other talks were also quite good. Among them the talk by Lisa Stubbs of Lawrence Livermore National Lab which was excellent and described comparative sequence analysis of human chromosome 19 genes in mammals and in the chicken. The meeting also featured workshops on database development for the animal genomes, methods to do expression studies and other cutting edge techniques. Combined with the excellent weather, it was a superb meeting. Next year's PAG-XII will be held January 10-14, 2004 again in San Diego at the same location. Plenary speakers will begin to be invited soon. If you have speaker suggestions or other comments, please contact one of the organizing committee representatives (Abel Ponce de Leon, apl@umn.edu; Cathy Ernst, ernstc@msu.edu; Bhanu Chowdhary, bchowdhary@cvm.tamu.edu; Noelle Cockett, fanoelle@cc.usu.edu; or Martien Groenen, martien.groenen@alg.vf.wau.nl).

The NRSP8 Pig Committee met the Saturday before the PAG XI meeting and it was very well attended. A total of nearly 90 people came and listened to the invited talks by Michel Georges, University of Liege on "Molecular dissection of an imprinted QTL on SSC2 with major effect on muscle mass" and Alex Caetano, Embrapa Recursos Geneticos e Biotecnologia Brasil, on "Using cDNA microarrays to study ovarian follicle development in pigs selected for increased ovulation rate". Both talks highlighted recent research on mutation discovery and gene expression research. These speakers were followed by Alan Archibald, Roslin Institute, who presented a "Bioinformatics update" that was useful, and some very interesting work by Joan Lunney, USDA/ARS, on the "Use of Real-time assays of immune gene expression to assess genetic basis of disease resistance". After these talks we had updates from the US participants in the NRSP8 project including reporting from Indiana (Diane Moody), Iowa (Max Rothschild, Chris Tuggle), Michigan (Cathy Ernst), Minnesota (Lee Alexander, Mike Murtaugh), Nebraska (Daniel Pomp), Nevada (Craig Beattie), USDA/ARS BARC (Joan Lunney), USDA/ARS MARC (Gary Rohrer), and Washington (Zhihua Jiang). NRSP8 reports and the Pig Genome Coordinator's report can be found at http://www.genome.iastate.edu/community/NRSP8/2002_index.html. Also included is the update from the US Pig Genome Coordinator. The meeting then discussed at great length the different ideas related to developing a NRSP8 sponsored array. After the discussion, Max Rothschild asked a committee of Chris Tuggle, Daniel Pomp (co-chairs), Mike Murtaugh, Diane Moody and Cathy Ernst. They were to review information and offer a recommendation by mid February. Dr. Tom Rathje, Danbred North America, was introduced as the official industry representative to the NRSP-8 Swine Species Genome Committee. The business meeting included an update from Deb Hamernik, CSREES. She informed us that the USDA is operating on a continuing resolution. The draft FY 2004 budget will soon be sent to Congress but they have yet to pass a FY 2003 budget. Prospects for increased grant funding are now bleak, and the best that could be hoped for is funding similar to FY 2003 as was the case in 2002. The business meeting concluded with Diane Moody

elected as chair and Joan Lunney elected as secretary for the following year.

Several other workshops were of special interest. At the Domestic Animal Genome Sequencing Workshop (January 13) porcine genome sequencing was discussed as were other species. We were informed that the recently written white paper received a “high priority ranking.” Thanks goes to the efforts of many people, including the authors and strong support from our colleagues abroad in Denmark, China, Scotland and France and the solid support from industry personnel from many companies and organizations. Efforts now remain to help find funding for this worthwhile effort. The Animal Comparative Mapping Workshop (January 14) focused on bioinformatics needs. Dave Adelson summarized the results of the recent USDA Stakeholder Electronic Workshop on Animal Bioinformatics, organized by Deb Hamernik of USDA-CSREES. A summary and recommendations report based on that workshop and the discussion at PAG-XI will be published shortly.

The Gordon Conference was again a success in not so sunny California. Thanks to an excellent mix of quantitative, molecular and evolutionary geneticists, the most recent GRC meeting lived up to its usual high standards. This year’s meeting featured many early career scientists and the discussions were lively and useful. Among the speakers were Clare Williams (tree genetics), Walter Fontana (RNA folding), Laura Almasy (SNPs for disease risk), Jaya Satagopa (two stage genome scans), Dan Gianola (Bayesian estimation), Sally Otto (distribution of QTL effects), Sara Knott (multi-trait QTL analysis), Christiana Kendzorski and Kathleen Kerr (microarray analysis), Bill Muir (risk assessment and transgenics), Sue Denise (SNP associations maps in cattle) and John Quackenbush (using bioinformatics). A special thanks goes to the chair Bruce Walsh and co-chair Rebecca Doerge.

Pig array planning moves ahead. Thanks to the activities of a committee from NRSP (Chris Tuggle, Daniel Pomp (co-chairs), Mike Murtaugh, Diane Moody and Cathy Ernst) real progress is being made on the development of pig arrays. The committee tackled the challenge of choosing cDNA arrays versus oligos and has been comparing vendors. At this point the recommendations have been to make an array with 10,000 70-mer oligos. The plan will be to use Pig Genome Coordinator funds (about \$40,000) to buy the oligos and pay for printing between 400-500 slides for the community. Once the vendor is chosen then more details about timing and availability will be made public. We owe a big thank you to all that have helped offer opinions and help, especially the committee for their good work.

Upcoming meetings (see: <http://www.genome.iastate.edu/community/meetings.html>)

International Symposium on Animal Functional Genomics, May 9-11, 2003, Kellogg Center, Michigan State University, East Lansing, MI. Email rosag@msu.edu for more information.

The John M. Airy Beef Cattle Symposium 2003: Visions for Genetics and Breeding May 15-17, 2003 in Des Moines, Iowa will be hosted by Iowa State University. For more information contact James Reecy at jreecy@iastate.edu.

13th North American Colloquium on Animal Cytogenetics and Gene Mapping, Louisville Zoo, Louisville, KY, July 13-17, 2003. For more information please see <http://www.uky.edu/Ag/VetScience/NACACGM/> or contact Teri Lear at equigene@uky.edu.

Plant, Animal and Microbial Genome XII, joint with the NAGRP annual meetings, Jan. 10-14, 2004, Town & Country Convention Center, San Diego, CA. Please see <http://www.intl-pag.org/> for more information.

ISAG 2004, 29th International Conference on Animal Genetics, Sept. 11-16, 2004, Surugadai Campus, Meiji University, Tokyo, JAPAN. For more information see <http://www2.kobe-u.ac.jp/~isag2004/>

Additional items can be found at: <http://www.agbiotechnet.com/calendar/index.asp>.

Items for *Pig Genome Update 60* can be sent to me by no later than April 15 please.

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