



## Pig Genome Update No. 49 July 1, 2001

**NC210 and NC220 regional research projects met and a merger is underway.** Just two weeks ago a group of 30 individuals representing the existing pig genomics and pig genetics regional projects met to write a brand new integrated project for regional research. This effort was led by Jack Dekkers, who chaired the writing committee, that consists of Ron Bates and Cathy Ernst (Michigan State University), Daniel Pomp (University of Nebraska), Max Rothschild (Iowa State University), Rodger Johnson (University of Nebraska) and Jon Beaver (University of Illinois). The meeting was hosted by Rodger Johnson and Daniel Pomp and was extremely productive in sorting out the objectives and the basis for future work. The following project title and objectives have been proposed: *Quantitative Genetic and Genomic approaches to improve pig production and health and pork quality*. Objectives: Through the integration of quantitative and molecular genetics we will: 1) Determine genetics factors to improve pre-harvest production efficiency, environmental sustainability, animal health, and welfare and 2) Discover genetic mechanisms controlling post-harvest quality of pork. The committee is still looking for expressions of interest of potential participants in this new project. Specifically, we are looking for the following input. These should include: 1) Names of faculty that would be interested to participate in this project and 2) Specifics on what your station could contribute to this project (e.g. genetic/animal resources, molecular genetic resources, knowledge, specific research areas) and on how research opportunities at your station would be enhanced by collaboration from other stations. Please email Jack Dekkers ([jdekkers@iastate.edu](mailto:jdekkers@iastate.edu)) as soon as possible.

**Web-based user-friendly QTL mapping software is now available!!!** The development team of Chris Haley, Mike Kearsey, Sara Knott, George Seaton and Peter Visscher are pleased to announce the release of QTL Express, a simple-to-use web-based package for QTL analysis using regression interval mapping techniques. QTL Express currently supports analyses of F2 data from crosses between inbred or outbred lines, and data from outbred half-sibpopulations. Modules allowing analysis of other data-structures and further enhancements will be added in due course. Special features of the program include: error checking, help files, example data files, marker segregation distortion test, inclusion of fixed effects and covariates, permutation tests to set significance thresholds, bootstrapping to determine confidence intervals and single and linked QTL models. QTL Express is appropriate for the analysis of experimental data and ideal for teaching purposes. It can be reached directly (<http://qtl.cap.ed.ac.uk>) or by going to the pig genome web page ([www.genome.iastate.edu](http://www.genome.iastate.edu)) and looking under the section marked QTLs. For more information or for comments on the package, emails to [george.seaton@ed.ac.uk](mailto:george.seaton@ed.ac.uk).

**Efforts to increase genome funding are underway.** An Alliance for Animal Genome Research, a non-profit organization, comprised of major companies in the animal industry, agricultural groups, and research universities has been formed to increase awareness of the importance of animal genome research and the urgent need for increased federal research funding. The objective of the initiative is to acquire increased funding for mapping and BAC libraries, low coverage sequencing, bioinformatics and long term competitive grant funding for functional genomics. Increased resources will come from greater access to existing genomics funding and increased appropriations. The focus will be on cattle, swine, poultry, and companion animals and through comparative genomics positioning the initiative as an integral component of the overall public genomics effort, including human and model species. For more information

please contact the Alliance at 415 591 5416 or 301 951 3345 (kindly provided by Dr. Roger Wyse).

**Have you adjusted your URL for ARKdb – it has moved !!** The Roslin Institute Bioinformatics (<http://bioinformatics.roslin.ac.uk>) Group is pleased to announce that the ARKdb database system has moved to a new, easy-to-remember domain. The main site can now be found at <http://www.thearkdb.org>. The Roslin site is also accessible as <http://roslin.thearkdb.org>, while the mirror sites at Texas A&M and Iowa State can be accessed as <http://texas.thearkdb.org> and <http://iowa.thearkdb.org>. The full set of ArkDB genome databases covering pigs, chickens, sheep, cattle, horses, deer, cats, tilapia, salmonids and turkey can be found on the Roslin site. The Iowa mirror site carries chicken and pig databases and the Texas mirror site houses cattle, horses and sheep. If you need to cite data held within the ARKdb databases, please cite ARKdb-<species name> genome database, with URL <http://www.thearkdb.org> and refer to the published paper Hu et al., (2001). Nucleic Acids Research 29(1), 106-110 also noting the date on which the data were retrieved or accessed (kindly provided by Andy Law).

**New primers and more aliquots of old ones are now available.** A new set of primers for 41 microsatellite markers are now available. These were produced by Research Genetics and are in 5000 pmoles amounts. **In addition Set III has been reproduced in limited number to meet additional demand.** A total of 509 microsatellite markers have been included in our ten sets. More information on all sets of primers can be found at the web site: [www.genome.iastate.edu/resources/fprimerintr.html](http://www.genome.iastate.edu/resources/fprimerintr.html). A Java graphic view of the microsatellite markers has been created. This graphic viewer of primer sets draws markers on each chromosome according to their relative location: [www.genome.iastate.edu/resources/PrimerOnChr.html](http://www.genome.iastate.edu/resources/PrimerOnChr.html). The new primers are available and are free of charge. If you would like to request a new set, please fill the web primer request form: [http://www.genome.iastate.edu/resources/primer\\_request.html](http://www.genome.iastate.edu/resources/primer_request.html). We will respond to you as soon as possible. In addition, there are a limited number of bags of the previous set of primers (set IX) available. For additional questions please contact me ([mfrothsc@iastate.edu](mailto:mfrothsc@iastate.edu)) or Dr. Yuandan Zhang ([ydzhang@iastate.edu](mailto:ydzhang@iastate.edu)).

**Ideas for support materials are needed.** The Pig Genome Coordinator is looking for more suggestions of items that can be made available to swine committee members and pig genome researchers. Please send your ideas to Max Rothschild at [mfrothsc@iastate.edu](mailto:mfrothsc@iastate.edu).

**The Sixth International Conference on Pig Reproduction was held June 3-6, 2001** at the University of Missouri-Columbia. The meeting was extremely well attended and featured talks on all aspects of pig reproduction, transgenics and cloning. A number of papers touched on genetics and one paper by Daniel Pomp discussed functional approaches to study reproduction. The seventh ICPR will be held four years from now and will be in the Netherlands. Dr. Billy Day was honored and roasted by his former students and colleagues at the social event of the meeting. A special thanks go to the hosts and organizing committee for a very cutting edge meeting.

**Planning is already well underway for PAG-X next year.** Please see [www.intl-pag.org/pag](http://www.intl-pag.org/pag) for more information. Dr. Francis Collins, "Czar" of the Human Genome Program at NIH, has agreed to give one of the plenary talks. Several changes are on tap for next year. PAG-X will again be at the Town & Country Convention Center in San Diego, CA, next year running from Sat., Jan. 12, through Wed., Jan. 16. Next year PAG-X will include plant, animal and agricultural microbe genomics all in one meeting. Also it is planned that a weekend-only registration rate (\$175) will be made available in addition to the usual student (\$225), non-profit (\$425 early/\$525), and industry (\$550 early/\$650) full week registrations. Registration badges will be required to participate in any workshop. As is the usual case the swine committee will be meeting during the first few days. Jon Beaver, chair, is planning the swine sessions and is happy to accept suggestions for speakers. Please note that some support will be available from the Pig Genome Coordinator for member and student

participation, including the Neal Jorgensen Travel Award for Swine. Contact Max Rothschild at [mfrothsc@iastate.edu](mailto:mfrothsc@iastate.edu) for details.

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

The Sixth International Veterinary Immunology Symposium, July 15-20, 2001 at Uppsala, Sweden. For information please contact: [ivis@slu.se](mailto:ivis@slu.se).

12th North American Colloquium on Animal Cytogenetics and Gene Mapping, July 15-19, 2001 at the University of California, Davis CA. For information please contact: [animalcyto@vgl.ucdavis.edu](mailto:animalcyto@vgl.ucdavis.edu) or <http://www.vgl.ucdavis.edu/research/cytoconf/>.

International Animal Agriculture and Food Science Conference July 24-28, 2001, Indianapolis, Indiana. This is the Joint Annual Meeting of the American Dairy Science Association, American Society of Animal Science, Poultry Science Association, Reciprocal Meat Conference of the American Meat Science. For information please contact Federation of Animal Science Societies at [fass01@assoqhq.org](mailto:fass01@assoqhq.org).

The 14th Conference of the Association for the Advancement of Animal Breeding and Genetics, July 30 - August 2, 2001, Queenstown, New Zealand. For information please contact Dr. Ken Dodds at [doddsk@agresearch.cri.nz](mailto:doddsk@agresearch.cri.nz).

4th International Meeting on SNPs and Complex Gene Analysis, Stockholm, Sweden October 10-13, 2001. For more information see: <http://snp2001.cgr.ki.se/>

Plant and Animal Genome X January 12-16, 2002 at the Town and Country Convention Center, San Diego, CA. For information please contact D. Sherago, Sherago International at [darrins@scherago.com](mailto:darrins@scherago.com).

International Society of Animal Genetics, Göttingen, Germany, August 11-15, 2002. See <http://www.gwdg.de/~bbrenig/ISAG2002.html> for further information.

7th World Congress of Genetics Applied to Livestock Production, August 19-23, 2002, Montpellier, France. See <http://www.wcgalp.org> for more information.

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

**Items for *Pig Genome Update 50*** can be sent to me by no later than August 10 please.

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cc: Dick Frahm, CSREES and Caird Rexroad II, ARS

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