



# POULTRY GENOME NEWSLETTER 2007

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Please note: Poultry Genome Newsletters are distributed electronically through Angenmap, the Animal Genome Discussion Group (<http://www.animalgenome.org/community/discuss.html>). You can also view current and previous Newsletters (in .pdf format) at our archive at <http://poultry.mph.msu.edu/newsletters/newsletters.htm>. If you wish to be notified as each Newsletter appears and prefer not to join Angenmap, email me at [dodgson@msu.edu](mailto:dodgson@msu.edu), and I will add you to a list of those to receive a .pdf copy by email as they appear (Adobe Acrobat Reader required).

## WASHINGTON FUNDING UPDATE:

The CSREES FY 2006 National Research Initiative (competitive grant program) request for proposals can be found at [http://www.csrees.usda.gov/funding/rfas/nri\\_rfa.html](http://www.csrees.usda.gov/funding/rfas/nri_rfa.html). Total FY 2006 NRI funding was \$181.2M. The House and Senate FY 2007 proposals allocate about \$190M for next year's NRI, but the 2007 budget remains in limbo. The most likely outcome is the same NRI budget as last year. **FY 2007 NRI applications require electronic submission through <http://grants.gov>.** The deadline for both **Animal Genome** and **Animal Growth & Nutrient Utilization** programs is **June 5, 2007**. This year, the Animal Genome program will not offer Functional Genomics grants (but expects to resume these in FY 2008). Applied Animal Genomics, Tools & Resources and Bioinformatics grants will be awarded this year. In FY 2006, success rates for standard research awards in various animal biology programs ranged from 15 to 27%.

Due to the uncertain 2007 budget situation, **USDA-ARS intramural funding** is operating on last year's budget minus a 6% withhold, which has put its units under a severe strain.

## PAG XV & NAGRP/NC-1008 Report: SNPs, SBS and miRNAs

PAG-XV was held **January 13-17, 2007** at the usual spot, the **Town and Country Hotel, San Diego, CA**. The **NC-1008 Multistate Research** project committee and the **Poultry Subcommittee** of the **National Animal Genome Research Program, NRSP-8**, met concurrently. **Kent Reed** and **Tom Porter** did a great job in organizing the meeting and keeping it on schedule. Among the recurring themes at the workshop this year were reports on the 2005 Illumina SNP survey led by **Hans Cheng** (ADOL, California, Indiana, Iowa) and prospects for the 2006 SNP survey led by **Chris Ashwell**, the results of which are anxiously awaited. Other highlights included **Marcia Miller's** update on the avian MHC, a description of the AgBase gene ontology effort (<http://www.agbase.msstate.edu/>) and several talks focused on gene expression in various tissues and lines. In addition to Station reports from our "regulars", guest speakers at the Workshop included **Helen Sang**, **Fred Leung**, **Roger Coulombe**, **Elisabeth Le Bihan-Duval** and **Michael Romanov**. Helen provided a very timely talk (her picture had appeared that very day on the front page of the London Sunday Times) that updated the excellent progress being made using lentiviruses to generate

transgenic birds, including those that express pharmaceutical proteins in egg albumin. Fred described his lab's work on full length chicken cDNAs (<http://www.bioinfo.hku.hk/chicken/>). Roger described the mechanisms by which turkeys are especially susceptible to aflatoxin B1. Elisabeth discussed progress on the INRA/Delaware/Maryland/Georgia consortium's studies of gene expression in selected growth and lean/fat lines, and Michael described progress in California condor genomics. These meetings concluded with the sobering reminder that both the NRSP-8 and NC-1008 projects need to submit renewal applications this year. The NRSP-8 writing team will be coordinated by **Mary Delany** and include existing coordinators or their representatives, and the NC-1008 writing team will be led by **Chris Ashwell** (objective 1), **Jim Petite** (objective 2) and **Sue Lamont** (objective 3).



**NC-1008 deliberations** (no, Muir did not pick up the check)

PAG XV kicked off with a plenary talk Sunday night by **Martina Newell-McGloughlin** that provided an entertaining and insightful picture of agricultural biotechnology and the often novel public perceptions thereof. Among the major themes of subsequent talks and workshops was the rapidly growing importance assigned to micro-RNA diversity and its role in shaping genome evolution (e.g., plenary talks by **David Bartel** and **Isidore Rigoutsos**). **Ian Baldwin** and **Detlef Weigel** extended the reach of genomics “into the field” and “around the world”, looking at questions of ecology and speciation. **Jerry Tuskan** and **Kirsten Lindblad-Toh** described novel insights obtained from the sequences of the poplar, dog, horse and opossum genomes. Another major PAG theme, heard in plenaries, workshops and exhibits alike, were applications of next generation, massively parallel sequencing by synthesis (SBS) technologies, in particular, the 454/Roche and Solexa machines.

**Next year PAG-XVI will be held Jan. 12-18, 2008, at the same location.** NRSP-8 will meet jointly with PAG. The time and location of the NC-1008 meeting are still under discussion. Note: suggestions for plenary speakers for next year's PAG should be forwarded to a member of the organizing committee (e.g., **Hans Cheng**, [hcheng@msu.edu](mailto:hcheng@msu.edu) or **Mary Delany** [medelany@ucdavis.edu](mailto:medelany@ucdavis.edu)) as soon as possible, as plans for PAG-XVI are already underway.

## ON THE ROAD AGAIN. UPCOMING MEETINGS:

NOTE: Regularly updated poultry meeting information is now available at [http://www.animalgenome.org/share/mtg\\_chic.html](http://www.animalgenome.org/share/mtg_chic.html). Meeting organizers can enter their own meeting information on-line at [www.animalgenome.org/cgi-bin/angenmap/mtg\\_new](http://www.animalgenome.org/cgi-bin/angenmap/mtg_new).

Gordon Conference on Quantitative Genetics and Genomics, February 18-23, 2007, Ventura Beach Marriott, Ventura, CA. See [www.grc.org/programs/2007/quantgen.htm](http://www.grc.org/programs/2007/quantgen.htm)

The Chick as a Model Organism: Genes, Development and Function, April 11-14, 2007, Barcelona, Spain. See [www.chicknet.es](http://www.chicknet.es). Early registration deadline: Jan. 31, 2007.

Genomics for Animal Health, June 4-8, 2007, Utrecht, The Netherlands. Further information, programme updates and an on-line registration form are available at [www.sabre-eu.eu](http://www.sabre-eu.eu) and [www.eadgene.org](http://www.eadgene.org).

Poultry Science Association Annual Meeting, July 8-12, 2007, San Antonio, Texas. Joint with ADSA and ASAS. See <http://www.poultryscience.org/futuremtg.asp>.

3<sup>rd</sup> International Conference on Quantitative Genetics, August 18-24, 2007, Zhejiang University, Hangzhou, China. See <http://ibi.zju.edu.cn/icqg>

Convergence of Genomics and the Land Grant Mission: Emerging Trends in the Application of Genomics in Agricultural Research, September 10-12, 2007, Purdue U., West Lafayette, Indiana. See [www.entm.purdue.edu/conference](http://www.entm.purdue.edu/conference).

17th Conference of the Association for the Advancement of Animal Breeding and Genetics, September 24-26, 2007, Armidale, NSW, Australia. See <http://www.aaabg.org/>

International Symposium on Animal Genomics for Animal Health, October 23-25, 2007, OIE Headquarters, World Organization for Animal Health, Paris, France. For information contact Cyril Gay, [cyril.gay@ars.usda.gov](mailto:cyril.gay@ars.usda.gov), or Marie-Hélène Pinard, [pinard@dga2.jouy.inra.fr](mailto:pinard@dga2.jouy.inra.fr)

Plant and Animal Genome XVI, joint with NC-1008 and NAGRP annual meetings, Jan. 12-16, 2008, Town & Country Convention Center, San Diego, CA. See [www.intl-pag.org/](http://www.intl-pag.org/).

### CHICKEN CHIPS AHOY!

**Operon Biotechnologies Inc.** distributes the *Gallus gallus* (chicken) Roslin/ARK CoRe Array V1.0 ready-to-spot oligonucleotide set that contains 20,673 long oligo probes for creating microarrays. See [http://www.operon.com/arrays/oligosets\\_chicken.php](http://www.operon.com/arrays/oligosets_chicken.php). A chicken whole genome long oligo array is also available at the **U. of Arizona**, [www.grl.steelecenter.arizona.edu](http://www.grl.steelecenter.arizona.edu) and can also be purchased on a custom basis from **Nimblegen**, [www.nimblegen.com](http://www.nimblegen.com). A 13K chicken spotted cDNA glass slide array remains available from the Array Facility at the **Fred Hutchinson Cancer Research Center**. See **Burnside et al.**, *BMC Genomics* 6:13 (2005) (<http://www.biomedcentral.com/bmcgenomics>) for more details. Email requests to [genomics@fhcrc.org](mailto:genomics@fhcrc.org). **Affymetrix, Inc.** is marketing the GeneChip® Chicken Genome Array that measures levels of 32,773 chicken transcripts and 684 chicken viral transcripts. See <http://www.affymetrix.com/products/arrays/specific/chicken.affx>. Microarrays, along with clones and vectors (including RNAi vectors), genotyping services and other resources can also be obtained from **ARK-Genomics** at <http://www.ark-genomics.org>. **Agilent Technologies** offers a 44,000 element long oligonucleotide microarray, provided as slides with four 44K arrays per slide. In addition to annotated chicken genes, genes of several pathogens are also included. See [www.agilent.com](http://www.agilent.com) or contact **Huaijun Zhou** at Texas A&M, [hjzhou@poultry.tamu.edu](mailto:hjzhou@poultry.tamu.edu), if interested. Poultry coordinators recently provided samples of the Agilent arrays to 10 members for testing, but we've exhausted our supply (and our funds).

## BAC AT YOU!

Chicken BAC libraries have been constructed at Texas A&M (~39,400 each in three sublibraries called TAM31, TAM32, and TAM33, respectively; Lee et al., *Animal Genetics* 34: 151) and by Pieter de Jong (CHORI-261: ~73,700 BACs with ~195 kb inserts). Pieter has also generated a turkey BAC library (CHORI-260). If interested in either CHORI library, see <http://bacpac.chori.org>. Some free filter sets with spotted arrays of CHORI-260, CHORI-261, TAM31 and TAM33 BACs are still available, email [dodgson@msu.edu](mailto:dodgson@msu.edu).

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## PLEASE PROVIDE YOUR INPUT

The Poultry Coordinators are always glad to hear from NRSP-8 members and other readers about ways that we can improve the coordination effort or provide resources that are needed and with which we may be able to help. Also, let us know if you have items of general interest to the poultry genetics community that we can include in this Newsletter.

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