

Minutes

Peanut Genome Consortium Meeting

3/13/2013

PARTICIPANTS

Victor Nwosu	Steven Cannon	Tom Isleib	John Takash
Lutz Froenicke	Richard Michelmore	Mark Cline	Steve Calhoun
Peggy Ozias-Akins	David Bertoli	Jim Elder	Tom Stalker
Baozhu Guo	Darlene Cowart	Phat Dang	Noelle Barkley
Corley Holbrook	George Birdsong	Tim Sanders	Manish Pandey
Mark Burow	Charles Chen	Doug Smyth	
Richard F. Wilson	Kim Moore	Howard Valentine	

Ozias-Akins convened the meeting at 7:00 pm EDT, and welcomed those attending or via teleconference. A quorum was established. The agenda was approved with an addition regarding membership in the PGC. Minutes from 1/14/13 were approved. These documents are posted on *peanutbioscience.com*.

Reports:

CY 2013 FUNDING. Valentine reported that approved CY2013 Genomics Research Proposals will be funded at \$680,000. \$300,000 has been released; the remaining \$380,000 will be allocated in one week. This amount is in addition to \$1.11 million set aside for the 2013 installment to BGI. The Peanut Foundation also issued a general call for peanut research proposals (which will be evaluated during the APC Spring meeting on 3/14/13). Beginning in 2014, The Peanut Foundation will combine these funding opportunities in one request.

PROGRESS on GENOME SEQUENCING & ASSEMBLY. Xun Xu, Liu Xin, Jackson, Froenicke and D. Bertoli have engaged in electronic correspondence to explore several interesting strategies, including Long Fragment Read (LFR) technology developed by Complete Genomics, which could help bring the tetraploid sequence together. BGI has completed a cash tender offer for Complete Genomics which will lead to a merger of the two firms. Work is moving forward to determine which genome assembly strategy is best. A decision should be made based on data obtained in the next month. Jackson and Froenicke will continue to represent the PGC in these deliberations with BGI.

PROGRESS on ULTRA-HIGH DENSITY DIPLOID MAPS. Michelmore and Froenicke reported an identification problem with a DNA sample from an A-genome species has been sorted out. Moleculo™ data for gene space of both the A- and B-genome will be available soon. Michelmore also reported success with PacBio sequencing of single 17 kb molecules; and believed it will be possible eventually to capture a genome read in one sample.

AAGB-2013: Stalker (Secretariat) reported **the deadline for Abstracts has been extended to April 15.** About 27 abstracts have been received. Additional submissions were encouraged. Stalker also requested receipt of registration forms with indication of preference for oral or poster presentations. No limit is set for posters from an individual. Size requirements for posters will be posted soon. Registration, Abstract forms and lodging information are posted on www.peanutbioscience.com/ and www.aagb-2013.com/. Registration fees will be paid on-site via cash or credit card. Upon request Stalker will provide personalized red-seal invitations for visa applications. Stalker will send additional letters of invitation to potential session chairs and selected speakers. A tentative technical program should be available by April 15. **Stalker also requested copies of travel itineraries to schedule transfers to the hotel in Zhengzhou.** Guo reported on the Social program for AAGB-2013. Optional tours on Friday June 21 are planned to: Longmen Grottoes (which exhibits fine examples of Chinese Buddhist art), and 2) the Shaolin Temple established in 495AD at the western foot of Songshan Mountain. More information on these tours is posted on www.aagb-2013.com/. In addition, separate optional pre-and post-meeting excursions are posted on www.peanutbioscience.com. An optional tour to Xian may be offered on Saturday June 22.

PARALLEL WORKGROUPS: Nwosu called attention to the need for a system to better document PGP accomplishments among IPGI members, and recommended a special session at AAGB-2013 to initiate

such action. Wilson agreed to organize a facilitated breakout session at AAGB-2013 to capture ideas for implementing improved accountability of research progress from contributors to each component of the IPGI strategic plan.

GENE EXPRESSION: Ozias-Akins reported on the status of gene expression analyses of the Tifrunner transcriptome. Twenty-four libraries (triplicate libraries from 8 tissues) have been sequenced, read quality is very good. 80% of reads aligned with the B-genome. Alignments to A-genome sequences revealed certain regions that were identical in the B-genome assembly. Remaining samples will be sequenced before AAGB-2013. Burow reported work with Farmer on transcriptome sequencing of the cv Tamrun 107 and other cultivated or wild accessions. Denovo assembly is coming together smoothly. Burow, Froenicke and Cannon agreed to share sequence data from various A- and B-genome accessions.

BIOINFORMATICS: Cannon reported progress on collecting published information on QTL, markers and maps to populate an informatics database (Peanut Breeders Toolbox). The Toolbox will be modeled after SoyBase. Scott, Froenicke, and Charles Chen will send relevant papers to Cannon.

PHENOTYPING: Holbrook reported that he and Isleib will each increase 2000 lines of CAP population material. Seed will be available for distribution to cooperators for phenotyping upon request by April 15. Holbrook will distribute an xls file showing an inventory of available materials. Acceptance of terms that ensure freedom-to-operate with these lines via an USDA-ARS MTA is required. Certain populations carrying genes for high-oleic/early and late leaf spot resistance; and for CBR, white mold, TSWV resistance are expected to be in high demand. A standard protocol for seed distribution will be developed by Holbrook and Isleib. Ozias-Akins reported that 2 of the 16 CAP populations have been genotyped with framework SSR markers. The group reaffirmed the need for a common terminology with a controlled vocabulary for phenotypic data. The Integrated Breeding Platform, at <https://www.integratedbreeding.net/>, appears to be the best option pending renewed funding of its host (the iPlant Collaborative) by NSF. All agreed to involve Cannon in analysis of data prior to publication to expedite development of the Toolbox.

EXPERIMENTAL SEQUENCING TECHNOLOGIES: See discussion of LFR, PacBio and MolecuLo™ technology.

INTERNATIONAL COLLABORATIONS: Nwosu reported that Dr. Luo has been reelected as a vice chairman of the CCPPC. Nwosu will visit Chairman Luo as well as other Chinese collaborators in 4 weeks. D. Bertoli will take a one-year sabbatical with Jackson at the University of Georgia. Dr. Manish Pandey is a visiting scientist working with Guo to genotype and phenotype the T- and S-populations. Pandey also elaborated on accomplishments at ICRISAT including parentage of leaf spot resistant line developed by Gowda. If requests for seed of this line are not productive, options to purchase seed will be explored.

POLICIES & PROCEDURES: Version 6.1 of the P&P is now posted on www.peanutbioscience.com

OTHER BUSINESS: Wilson reported receipt of a resignation request from PGC member Arvind Bharti, due to relocation to new employment; and a nomination of Dr. Boshou Liao (Deputy Director, Oil Crops Research Institute, Chinese Academy Agricultural Sciences, Wuhan, PRC) to fill the vacancy on the Executive Committee. Motions to accept Dr. Bharti's resignation and to elect Dr. Liao to the PGC were approved by unanimous vote. Wilson will send formal confirmation of these actions.

NEXT MEETINGS:

Mid April, 2013, PGC Teleconference, Next Steps for Phase II

9-11 July 2013, American Peanut Research Education Society, Young Harris, GA

17-21 June 13, AAGB-2013, Zhengzhou, PRC

ADJOURNED