Name: Peng-Wah Chee

Rank: Associate Professor — Molecular Breeding/Genetic

Education:

Ph.D., North Dakota State University, 1998; Plant Breeding and Genetics
M.Sc., Montana State University, 1994; Plant Breeding and Genetics
B.Sc., Montana State University, 1992; Agronomy

Employment:

1 Sept 2000: Assistant Professor, Dept. Crop and Soil Sciences, University of Georgia
1 June 1998: Postdoctoral Associate, Texas A&M University

Honors, Awards and Organization Appointments:

2005: "Junior Research Scientist" of the year, University of Georgia, Tifton Campus
2006-: Treasurer/Secretary, International Cotton Genome Initiative
2005: Chair, writing committee for SDC-317 Multi-regional Research Project "Genetic improvement approaches to sustained, profitable cotton production in the U.S"
2004-5: Vice-Chair, S-304 Multi-regional Research Project "Development of Genetic Resources for Cotton"
2004: Panel member, Review Committee, "BIO's Compliance Education Program for Field Trials of Regulated Cotton"
2003: Review panel for USDA College Station TX Cotton Germplasm Research Unit
1997: Glenn Smith Scholarship for outstanding plant breeding student, Plant Sciences Dept., North Dakota State University

Course taught:

Agricultural Biotechnology CRSS 4800/6800

Mentoring:

Since 2001, Dr Chee has mentored a total of 3 postdoctoral scientists (currently 2), 1 M.S. student (currently 2 Ph.D.), and 4 visiting scientists (presently 1 Fulbright scholar).

Professional Affiliations:

American Association for the Advancement of Science, American Society of Agronomy, International Cotton Genome Initiative, Sigma Xi

Publications:

Chapters in Books

Ulloa M, Brubaker C, Chee P (2006) Cotton. In: Kole C (ed) Genome Mapping & Molecular Breeding. Vol. 7: Technical Crops. Springer, Heidelberg, Berlin, New York, Tokyo (in press)

Refereed Journal Articles:

Gingle, A.R., H. Yang, P. Chee, O.L. May, J. Rong, D.T. Bowman, E.L. Lubbers, and A.H. Paterson. 200x. An Integrated Web Resource for Cotton. Crop Science (accepted)

Kumar, P., A.H. Paterson, and P.W. Chee. 2006. Predicting introns sites by cotton ESTs to *Arabidopsis* genomic DNA alignment. J. Cotton Science 10:29-38

Desai, A., P. Chee, J. Rong, L. May, and A. H. Paterson. 2006. Chromosome structural changes in diploid and tetraploid A genomes of *Gossypium*. Genome 49:336-345

Rong, J., G.J. Pierce, V.N. Waghmare, C.J. Rogers, A. Desai, P.W. Chee, O.L. May, J.R. Gannaway, J.F. Wendel, T.A. Wilkins, and A.H. Paterson. Genetic mapping and comparative analysis of seven mutants related to seedborne fiber development in cotton. Theor. Appl. Genet 111:1137-1146.

Chee, P., X. Draye, C-X. Jiang, L. Decanini, T.A. Delmonte, R. Bredhauer, C.W. Smith, and A.H. Paterson. 2005. Molecular dissection of phenotypic variation between *Gossypium hirsutum* and *G. barbadense* (cotton) by a backcross-self approach: I. Fiber Elongation. Theor. Appl. Genet. 111:757-763

Chee, P.W., X. Draye, C-X. Jiang, L. Decanini, T.A. Delmonte, R. Bredhauer, C.W. Smith, and A.H. Paterson. 2005. Molecular dissection of phenotypic variation between *Gossypium hirsutum* and *G. barbadense* (cotton) by a backcross-self approach: III. Fiber Length. Theor. Appl. Genet. 111:772-781.

Draye, X., P. Chee, C-X. Jiang, L. Decanini, T.A. Delmonte, R. Bredhauer, C.W. Smith, and A.H. Paterson. 2005. Molecular dissection of phenotypic variation between *Gossypium hirsutum* and *G. barbadense* (cotton) by a backcross-self approach: II. Fiber Fineness. Theor. Appl. Genet. 111:764-771.

Van Becelaere, G., E.L. Lubbers, A.H. Paterson, and P.W. Chee. 2005. Pedigree vs. RFLP based genetic similarity estimates in cotton. Crop Sci. 45:2281-2287.

Sakhanokho, H.F., P. Ozias-Akins, O.L. May, and P.W. Chee. 2005. Putrescine enhances somatic embryogenesis and plant regeneration in upland cotton. Plant Cell, Tissue and Organ Culture 81:91-92.

Chee, P.W., J. Rong, D. Williams-Coplin, S.R. Schulze, and A.H. Paterson. 2004. EST derived PCR-based markers for functional gene homologues in cotton. Genome 47:449-462.

May, O.L., P.W. Chee, and H. Sakhanokho. 2004. Registration of GA98033 upland cotton germplasm line. Crop Sci. 44:2278-2279.

Paterson, A.H., R.K Boman, S.M. Brown, P.W. Chee, J.R. Gannaway, A.R. Gingle, O.L. May, and C.W. Smith. 2004. Reducing the genetic vulnerability of cotton. Crop Sci. 44:1900-1901.

Rong, J., C. Abbey, J.E. Bowers, C.L. Brubaker, C. Chang, P.W. Chee, T.A. Delmonte, X. Ding, J.J. Garza, B.S. Marler, C. Park, G.J. Pierce, K.M. Rainey, V.K. Rastogi, S.R. Schulze, N.L. Trolinder, J.F. Wendel, T.A. Wilkins, D. Williams-Coplin, R.A. Wing, R.J. Wright, X. Zhao, L. Zhu, and A.H. Paterson. 2004. A 3347-locus genetic recombination map of sequence-tagged sites reveals features of genome organization, transmission and evolution of cotton (*Gossypium*). Genetics 166:389-417.

Sakhanokho, H.F., P. Ozias-Akins, O.L. May, and P.W. Chee. 2004. Induction of somatic embryogenesis and plant regeneration in select Georgia and Pee Dee cotton (*Gossypium hirsutum* L.) lines. Crop Sci. 44:2199-2205.

Sakhanokho, H.F., A. Zipf, K. Rajasekaran, S. Saha, G.C. Sharma, and P.W. Chee. 2003. Somatic embryo initiation and germination in diploid cotton (*Gossypium arboreum* L.). In Vitro Cell. Dev. Biol.-Plant 40:177-181.

Sakhanokho, H. and Chee P.W. 2002. The current status of gene transformation in cotton. SAAS Bull. Biochem. Biotechn. 15:34-46.

Chee, P.W., E.M. Elias, J.A. Anderson, and S.F. Kianian. 2001. Evaluation of a high grain protein locus from *Triticum dicoccoides* in an adapted durum wheat background. Crop Sci. 41:295-301.

Jiang, C.-X., P.W. Chee, X. Draye, P.L. Morrell, C.W. Smith, and A.H. Paterson. 2000. Multi-locus interactions restrict gene introgression in interspecific populations of polyploid *Gossypium* (cotton). Evolution 54:798-814.

Chee, P.W., M. Lavin, and L.E. Talbert. 1995. Molecular analysis of evolutionary patterns in U genome wild wheats. Genome. 38:290-297.

Talbert, L.E., N.K. Blake, P.W. Chee, and T.K. Blake. 1994. Evaluation of "sequence-tagged-site" PCR products as molecular markers in wheat. Theor. Appl. Genet. 87:789-794.

Chee, P.W., L. Pederson, A. Matejowski, V. Kanazin, and T.K. Blake. 1993. Development of polymerase chain reaction for barley genome analysis. J. Am. Soc. of Brew. Chem. 51:93-96.

Dyer, W.E., P.W. Chee, and P.K. Fay. 1993. Rapid germination of sulfonylurea-resistant *Kochia scoparia* L accessions is associated with elevated levels of branched chain amino acids. Weed Sci. 41:18-22.

Bulletins or Reports:

CAP Writing Team (including P.W. Chee). 2005. Report on Cotton Coordinated Agricultural Project (CAP) Workshop 9-10 Dec 2004, Lubbock TX http://cotton.agtec.uga.edu/CottonCAP/CottonCAP05.htm

Chee, P.W., E.L. Lubbers, O.L. May, and A.H. Paterson. 2004. Secondary gene pool contributions in U.S. upland cotton. p. 85-89. *In* O. L. May, P. Jost, and P. Roberts (eds.) 2003 Cotton Research-Extension Reports, UGA/CPES Research-Extension Publication No. 6, April 2004.

Kumar, P. and P.W. Chee. 2004. A new class of DNA markers in cotton. p. 117-119. *In* O. L. May, P. Jost, and P. Roberts (eds.) 2003 Cotton Research-Extension Reports, UGA/CPES Research-Extension Publication No. 6, April 2004.

Lubbers, E.L., P.W. Chee, O.L. May, and A.H. Paterson. 2004. Genetic diversity of U.S. upland cotton. p. 120-130. *In* O. L. May, P. Jost, and P. Roberts (eds.) 2003 Cotton Research-Extension Reports, UGA/CPES Research-Extension Publication No. 6, April 2004.

May, L., P. Chee, G. Henderson, and S. Walker. 2004. Breeding cultivars and germplasm with enhanced yield and quality. p. 131-147. *In* O. L. May, P. Jost, and P. Roberts (eds.) 2003 Cotton Research-Extension Reports, UGA/CPES Research-Extension Publication No. 6, April 2004.

Van Becelaere, G., L. May, R. Davis, N. Sheikh, and P.W. Chee. 2004. Development of DNA markers for Root-knot nematode resistance in cotton. p. 59-61. *In* O. L. May, P. Jost, and P. Roberts (eds.) 2003 Cotton Research-Extension Reports, UGA/CPES Research-Extension Publication No. 6, April 2004.

Vickers, J., H.F. Sakhanokho, P. Ozias-Akins, O.L. May, K.J. Lewis, and P.W. Chee. 2004. Putrescine improves somatic embryogenesis and plant regeneration in selected cotton lines. p. 154-157. *In* O. L. May, P. Jost, and P. Roberts (eds.) 2003 Cotton Research-Extension Reports, UGA/CPES Research-Extension Publication No. 6, April 2004.

Sakhanokho, H.F., P. Ozias-Akins, O.L. May, K. Lewis, J. Vickers, and P.W. Chee. 2003. Response of some PeeDee and Georgia cotton genotypes to in vitro tissue culture. p. 172. *In* A.S. Culpepper, O.L. May, and P. Jost. (eds.) 2002 Cotton Research-Extension Reports, UGA/CPES Research-Extension Publication No. 5, April 2003.

Chee, P., O.L. May, and R. Davis. 2003. Inheritance of Root-knot nematode resistance and progress in marker development.
http://www.cottoninc.com/AgResearch/homepage.cfm?page=3658.

Chee, P., O.L. May, and R. Davis. 2003. Development of diagnostic markers for Root-knot nematode resistant genes in cotton; A valuable tool for breeding nematode resistant cultivars. p. 66-67. *In* 2002 Cotton Incorporated Agricultural Research Projects-Summary Reports. Cotton Incorporated, Cary, NC.

Chee, P. 2003. Development of transgenic cotton cultivars adapted to Georgia environments. p. 67. *In* 2002 Cotton Incorporated Agricultural Research Projects-Summary Reports. Cotton Incorporated, Cary, NC.

Paterson, A.H., P. Chee, and O.L. May. 2003. Fine-tuning of novel genetic variation for use in Georgia cotton: toward a new adaptive peak for cotton productivity and quality. p. 63. *In* 2002 Cotton Incorporated Agricultural Research Projects-Summary Reports. Cotton Incorporated, Cary, NC.

Chee, P. K. Lewis, J. Rong, and A. Paterson. 2002. Genetic markers for cotton improvement. p. 166-167. *In* C.W. Bednarz, A.S. Culpepper and O.L. May. (eds.) 2001 Cotton Research-Extension Reports, UGA/CPES Research-Extension Publication No. 4, April 2002.

Sakhanokho, H.F. and P.W. Chee. 2002. Screening of Georgia and PeeDee cotton germplasm lines for their potential for tissue culture systems. p. 168-169. *In* C.W. Bednarz, A.S. Culpepper and O.L. May. (eds.) 2001 Cotton Research-Extension Reports, UGA/CPES Research-Extension Publication No. 4, April 2002.

Conference Proceedings:

Chee, P.W., E.L. Lubbers, O.L. May, and A.H. Paterson. 2005. How prevalent is interspecific introgression in Upland cotton? *In* Proc. Beltwide Cotton Conf., 4-7 Jan. 2005, New Orleans, LA.

Kumar, P. and P.W. Chee. 2005. PCR markers based on gene introns. *In* Proc. Beltwide Cotton Conf., 4-7 Jan. 2005, New Orleans, LA.

Lubbers, E.L., P.W. Chee, J.R. Gannaway, O.L. May, and A.H. Paterson. 2005. Genetic relationships of historically important U.S. Upland cotton cultivars and germplasm lines. *In* Proc. Beltwide Cotton Conf., 4-7 Jan. 2005, New Orleans, LA.

Van Becelaere, G., E.L. Lubbers, A.H. Paterson, and P.W. Chee. 2005. Pedigree- vs. RFLP-based genetic similarity estimates in cotton. *In* Proc. Beltwide Cotton Conf., 4-7 Jan. 2005, New Orleans, LA.

Zhang, J., Y. Lu, R.G. Percy, M. Ulloa, G. Becelaere, P. Chee, and R. Cantrell. 2005. A molecular linkage map and quantitative trait locus analysis based on a recombinant inbred line population of cotton. *In* Proc. Beltwide Cotton Conf., 4-7 Jan. 2005, New Orleans, LA.

Chee, P., E. Lubbers, L. May, J. Gannaway, and A. Paterson. 2004. Changes in genetic diversity of the U.S. Upland cotton. *In* Proc. Beltwide Cotton Conf., 5-9 Jan. 2004, San Antonio, TX.

Chee, P., E. Lubbers, O.L. May, and A.H. Paterson. 2004. Secondary gene pool contributions in domesticated cotton. *In* Proc 4th Int. Cotton Genome Initiative Conf., Oct. 10-13, 2004. Hyderabad, India. (in press)

Chee, P. and J.P. Wilson. 2004. Genetic variability of wild pearl millets with striga resistance. *In* Proc. Millet and Sorghum-Based Systems in West Africa: Current Knowledge and Enhancing Linkages to Improve Food Security. McKnight Foundation Collaborative Crop Research Foundation. Jan. 27-30, 2004. Niamey, Niger. (in press)

Lubbers, E., P. Chee, K. El-Zik, J. Gannaway, L. May, R. Wright, and A. Paterson. 2004. Genetic relationships among U.S. Upland cotton. *In* Proc. Beltwide Cotton Conf., 5-9 Jan. 2004, San Antonio, TX.

Sakhanokho, H.F., P. Ozias-Akins, O.L. May, and P.W Chee. 2003. Somatic embryogenesis ability in selected Georgia and Pee Dee cotton lines. *In* Proc. Beltwide Cotton Conf., 6-10 Jan. 2003, Nashville, TN.

Leonhard, P.S., O.L. May, P.W. Chee, and A.H. Paterson. 2003. Improvement of Des 56 through backcross introgression from a wild day-neutral flowering converted accession. *In* Proc. Beltwide Cotton Conf., 6-10 Jan. 2003, Nashville, TN.

Chee P., R. Bowman, S. Brown, J. Gannaway, A. Gingle, L. May, W. Smith, and A. Paterson. 2003. Reducing the genetic vulnerability of cotton. *In* T. Zhang et al. (ed.) Proc 3rd Int. Cotton Genome Initiative Conf., Nanjing, China. 3-6 June 2002. Cotton Science 14: 24. Supplement.

May O.L, A. Paterson, and P. Chee. 2003. Genetic resources for cotton improvement and application of genomic tools. *In* T. Zhang et al. (ed.) Proc 3rd Int. Cotton Genome Initiative Conf., Nanjing, China. 3-6 June 2002. Cotton Science 14: 92. Supplement.

Chee, P, K. Lewis, J. Rong, and A. Paterson. 2002. Chromosome locations of known-function ESTs in cotton. *In* Proc. Beltwide Cotton Conf., 8-12 Jan. 2002. Atlanta, GA.

General interest articles:

Chee, P. 2002. Applying genomic tools to breeding for nematode resistance. p. 6. Southern Farmer Press, March 2002.