

Wanlong Li, Ph. D.

Department of Biology and Microbiology
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Education

- Ph. D. (Plant Genetics and Breeding) 1993. Nanjing Agricultural University, Nanjing, China
- M.S. (Plant Genetics and Breeding) 1987. Northwestern A&F University, Yangling, China
- B.S. (Agronomy) 1984. Northwestern A&F University, Yangling, China

Employments

- Associate Professor (2012 -)
Department of Biology and Microbiology, Department of Plant Sciences, South Dakota State University
Map-based cloning shattering gene *Br2*, root gene *Vsr1* and wax inhibitor *Iw3*; transcriptomic analysis of root development and cuticular wax deposition; epigenetics of zygosity-dependence; domestication, evolution and speciation of wheat; development of solid-stem Triticale for drought tolerance, saw fly resistance and biomass production; transfer of the *puroindoline* genes from timopheevii wheat into common wheat to increase grain softness.
- Assistant Professor (2009 to 2012)
Department of Biology and Microbiology, Department of Plant Sciences, South Dakota State University
Physical mapping of wheat chromosome 3A; origin and evolution of the polyploid wheat lineages; non-additive interaction underlying a very short root of wheat; assembly and analysis of wheat root transcriptome; genetic mapping and transcription profiling of wax genes and metabolite profiling of wax composition and its relation to wheat drought tolerance; map-based cloning shattering gene *Br2*, root gene *Vsr1* and wax inhibitor *Iw3*; development of solid-stem Triticale as a feedstock for biofuel production; development of soybean mutants for drought-tolerance gene discovery;
- Research Assistant Professor (2000 to 2009)
Department of Plant Pathology, Kansas State University
Genetic dissection of the lignocellulosic pathway of wheat as a feedstock for biofuels; physical mapping and sample sequencing of wheat chromosome arm 3AS; Map-based cloning shattering genes; polyploid wheat evolution; direction of wheat genomics facility; map-based cloning of *Lr21*; construction of BAC libraries of *Aegilops tauschii*, mapping RFLP and EST markers to BAC contigs; exploring gene-filtration methods for wheat genome sequencing and genome organization by genome shotgun sequencing and chromosome *in situ* hybridization, evolution of the grain hardness locus *Ha* and comparative mapping of shattering loci.
- Visiting Professor (June 1999 to Dec. 2000)

Department of Plant Pathology, Kansas State University

Wheat molecular genetics and genomics: cDNA cloning, genomic mapping and expression study of wheat chitinase and glucanase genes from scab resistant variety Sumai 3; colinearity study of *Al-Sh2* orthologous region in wheat, barley, rye, rice, maize and sorghum

- Associate Professor (Mar. 1998 to June 1999)
Department of Agronomy, Nanjing Agricultural University
Wheat genomics: QTL analyses of tillering and spike traits, pre-harvest sprouting, salt tolerance, grain protein content, and grain hardness
- Visiting Professor (Jan. 1997 to Mar. 1998)
Department of Plant Pathology, Kansas State University
Wheat genomics: characterization of molecular mechanism of wheat resistance to *Fusarium* head blight (scab disease); genomic mapping of defense response genes and candidate gene analysis of quantitative disease resistance
- Associate Professor (Dec. 1994 to Jan. 1997)
Department of Agronomy, Nanjing Agricultural University
Marker-assisted breeding of wheat resistance to powdery mildew
- Assistant professor (Sept. 1993 to Dec. 1994)
Department of Agronomy, Nanjing Agricultural University, Nanjing, Jiangsu, China
Marker-assisted breeding of wheat resistance to powdery mildew
- Research Assistant (Sept. 1987 to Sept. 1990)
Northwestern Institute of Botany, Yangling, Shaanxi, China
Wheat genetics and breeding: characterization of genetic mechanism of fertility restoration and breeding hybrid wheat

Specialized Experience

- Genetics: classic genetics, cytogenetics, molecular genetics, epigenetics, QTL mapping, and map-based cloning;
- Genomics: structure genomics (genome mapping and sequence analysis), functional genomics (VIGS and RNAi), and comparative genomics;
- Transcriptomics: Northern blot, qPCR, microarray, transcriptome assembly from 454 and HiSeq reads, and transcript quantification;
- Breeding: hybrid breeding, germplasm development, and marker-assisted selection;
- Plant physiology: measurement of root growth, water loss and chlorophyll leaching, wax extraction, purification, and GC-MS;
- Plant Pathology: preparation of *Fusarium* conidia and inoculation wheat plants for *Fusarium* head blight and *Fusarium* crown rot;
- Evolution: origination, evolution and domestication of polyploid wheat.
- Markers: RFLP, SSR, STS, CAPS, dCAPS, and SNPs;
- Microscopy: light, confocal fluorescent, and scanning electron microscope.
- Protein: GST- and His-tagged purification;
- English writing: drafting and submitting/communicating grant proposals, research articles and book chapters;

Teaching

- Epigenetics/Epigenomics (BIOS792; spring semester of odd years), South Dakota State University
- Molecular & Microbe Genetics (MICR436; the first half of fall semester) , South Dakota State University
- Guest lectures in Advanced Plant Breeding (PS770 2015, South Dakota State University); Molecular Plant Physiology (BIOS664; 2014, South Dakota State University) and Plant Genetics (Agron770; 2007, Kansas State University)
- Molecular Genetics, graduates (1994-1996 and 1998-1999), Nanjing Agricultural University, 3 hours/week
- Seminar of Plant Genetics and Breeding, graduates (1995-1996), Nanjing Agricultural University, 2 hours/week

Awards

- 1996 National Science-Technology Promotion Award (Second Class) from Ministry of Agriculture, China. Li shared this award with eight other winners.
- 1997 National Invention Award (Third Class), China. Li shared this award with eight other winners.
- 1998 National Science-Technology Advancement Award (First Class) from Ministry of Education, China. Li shared this award with nine other winners.

Professional Activities

- Member of American Society of Plant Biologists
- Member of Crop Science Society of America
- Board editor of journal Plants
- Manuscript reviewer for Acta Physiologiae Plantarum, Biomass and Bioenergy, BMC Plant Biology, Gene, Genetics, HortScience, Peptides, Plant Physiology and Biochemistry, Plant Molecular Biology Reporter, Plants, PLoS One, Theor Appl Genet, The Scientific World Journal; and proposal reviewer for the United States-Israel Binational Agricultural Research & Development (BARD) Fund, NSF, and USDA/FAS/OCBD.

Grants

Grants received at SDSU

1. PD Li W. co-PD Xu S, Langham M, Ma Q. 2 2017 – 1 2019. USDA AFRI. Dissecting the sea wheatgrass genome to transfer biotic stress resistance and abiotic stress tolerance into wheat. \$244,618.
2. PD Li W, co-PD Yang B. 12 2016 – 11 2019. USDA NIFA-IWYP. CRISPR-based genome editing of grain size regulators for novel variation to increase wheat genetic yield potential. \$930,000.
3. PD Subramanian S, Co-PD Gu X, Li W, Nepal M, Rohila J. 07 2014 - 06 2017. South Dakota Soybean Council. Efficient and economical molecular diagnostic tools for soybean stresses. \$268,278. \$54,000 to Li.

4. PI Li W. South Dakota State University. 05 2015 – 06 2016. Genetic complementation of *Vsr1b* for root development and *Iw2* for cuticular wax deposition in wheat. \$7,000.
5. PI Challa GS. 07 2011 – 06 2012. Center for Excellence of Drought Tolerance research. Genome wide identification, expression analysis of members of the MAP Kinase cascade gene families in Soybean (*Glycine max*) and study of their interaction networks during drought stress. Total \$4,000. (Challa GS is one of Li's current advisees.)
6. PI Li W, co-PI Yen Y. 01 2011 – 12 2013 Develop solid-stem triticale as a feedstock for biofuel production. SUN-Grants DOE. Total \$141,585.
7. PI Yen Y, co-PIs Berzonsky B, Glover K, Li W, Stein J. 07 2010 - 06 2011. South Dakota Wheat Commission. Precise DNA markers for breeding better fhb-resistant wheat for SD. Total \$20,000.
8. PI Li W. 03 2010 – 02 2011. Microarray analysis of wheat root development. South Dakota State University Research/Scholarship Support Fund. Total \$7,400.
9. PI Li W. 09 2009 – 08 2011. Subaward from Kansas State University with support from USDA Plant Genome Program. IWGSC: Integrated physical and genetic map of chromosome 3A of wheat. Total \$50,000.
10. PI Li W, co-PIs Jiang G, Yen Y. 09 2009 – 08 2012. Center for Excellence of Drought Tolerance Research with support from USDA-AFRI. TILLING the wheat soybean genomes for seed development mutants. Total \$25,000.
11. PI Yen Y, co-PIs Ge X and Li W. 07 2009 – 06 2011. South Dakota Center for Excellence of Drought Tolerance Research. Constructing small RNA Libraries and their target libraries for characterizing molecular mechanisms of wheat resistance to Fusarium head blight. Total \$20,000.
12. PI Li W; co-PI Berzonsky W, Glover K and Yen Y. 07 2009 – 06 2012. South Dakota Wheat Commission. Genomics-facilitated germplasm development. Total \$101,779.
13. PI Clay DE, co-PIs Li W, Rushton P, Rohila J, Subramanian S, Gu XY, Gonzalez J. 07 2009 – 06 2012. South Dakota Soybean Council. Fundamental studies: identification and isolation of genes and germplasms from cultivated and wild soybean genotypes that can be used by public institution and industry to improve yield, quality, pest resistance, and energy, nutrient, and water use efficiency in soybean plants. Total \$ \$477,000; \$82,500 to Li.

Grants received at KSU

14. PI Gill BS, co-PIs: Akhunov E, Faris JD, Li W, Luo M-C. 09 2008-08 2011. USDA Plant Genome Program. IWGSC: Integrated physical and genetic map of chromosome 3A of wheat. Total \$1,000,000; \$102,875 to Li, \$50,000 of which was made as a sub-award from Kansas State University to SDSU (see No. 5 of 11a).
15. PI Gill BS, co-PI: Li W. 09 2006 – 08 2009. DOE-USDA Feedstock Genomics Program. Genetic dissection of the lignocellulosic pathway of wheat to improve biomass quality of grasses as a feedstock for biofuels. No. 2006-04541. Total \$700,000; \$300,000 to Li.
16. PI: Gill BS, co-PIs: Buell CR, Devos KM, Faris JD, Gornicki P, Li W, Luo M-C, Rabinowicz P. 09 2006- 08 2009. USDA Plant Genome Program. IWGSC: A

physical map and sample sequencing of the homoeologous group-3 chromosomes of wheat. No. 2006-35604-17248. Total \$1,000,000; \$105,750 to Li.

Grants received in China

17. PI **Li W**. National Natural Science Foundation of China. Jan 1998 – Dec 2000
Molecular Mapping of agronomic traits on chromosome 5D. Total ¥ 100,000 to Li.

Unfunded Proposals

1. PI W Li, co-PI K Glover. Transfer superior alleles of grain size regulators into South Dakota wheat. South Dakota Wheat Commission. Submitted in 01 2017. Amount requested: \$112,218. Not funded
2. PI W Li, Co-PI Karl Glover. Selection of ABA sensitivity to improve SD spring wheat resistance to abiotic and biotic stress. South Dakota Wheat Commission. Submitted in 11 2016. Amount requested: \$107,490. Not funded
3. PI W Li, co-PI SK Sehgal, K Glover. Sequencing and mining the Timopheevi genome for bettering wheat grain quality and tolerance to abiotic and biotic stress. Submitted in 12 2015. Amount requested: \$90,874. Not funded
4. PI Li W. Molecular dissection of Vsr1-mediated root growth pathways in wheat. USDA-AFRI. Submitted in 04 2015. Amount requested: \$488,188. Not funded.
5. PI W Li, co-PI J Jiang, N Reese. Molecular dissection of the zygosity-dependent epigenetic mechanisms. NSF MCB. Submitted in 05 2015. Amount requested: \$1,191,061. Not funded
6. PI W Li, co-PI SK Sehgal. Transferring of agriculturally important traits from Russian Wheatgrass into wheat. South Dakota Wheat Commission. Submitted in.12 2014. Amount requested: \$90,767. Not funded
7. PI W Li. Transcriptomic and Functional Analysis of Wheat Epidermal Development and Cuticle Deposition. NSF PGRP. Submitted in 10 2014. Amount requested: \$560,599. Not funded
8. PI W Li. Genetic dissection of Iw2-mediated cross-talks between wheat cuticular wax pathways. USDA AFRI. Submitted in 04 2014. Amount requested: \$494,379. Not funded
9. PI W Li, co-PI K Glover. Genetic studies of drought tolerance in wheat at adult plant stage. South Dakota Wheat Commission. Submitted in 12 2013. Amount requested: \$108,227 (not funded)
10. PI Li W, co-PI Glover K. Use of glaucousness for improving wheat drought and heat tolerance. South Dakota Wheat Commission. Submitted in 12 2012. Amount requested: \$35,000. Not funded
11. PI Li W. USDA AFRI Foundational Program. 2011. Digging the genetic factors underlying wheat root growth. Total requested: \$149,345. Not funded
12. PI Li W. USDA AFRI Foundational Program. 2010. Epigenetic mechanisms underlying root development in wheat. Total requested: \$499,954. Not funded
13. PI Li W, co-PIs Gill BS, Trick HN, Dixon DA, Chen F. DOE/USDA Feedstock Genomics program. 2009. Genetic dissection of the lignin biosynthetic pathway and its regulatory network of wheat to improve biomass quality of grasses as a feedstock for biofuels. Total requested: \$1,321,925. Not funded

Publications in English (*corresponding author)

1. **Li W***, Yang B. 2017. Translational genomics of grain size regulation in wheat. *Theor Appl Genet.* 130:1765–1771.
2. **Li W***, Challa GS, Zhu H, Wei W. 2016. Recurrence of Chromosome Rearrangements and Reuse of DNA Breakpoints in the Evolution of the Triticeae Genomes. *G3 (Bethesda).* 6(12):3837-3847
3. Zhang ZZ, Wei W, Challa GS, Bi C, Trick HN, **Li W***. 2015. *W3* is a new wax locus that is essential for biosynthesis of β -diketone, development of glaucousness, and reduction of cuticle permeability in common wheat. *PLoS One* 10(10): e0140524.
4. Zhang Z, Zhu H, Gill BS, **Li W***. 2015. Fine mapping of shattering locus *Br2* reveals a putative chromosomal inversion polymorphism between the two lineages of *Aegilops tauschii*. *Theor Appl Genet* 128:745-755.
5. Gornicki P, Zhu H, Wang J, Challa GS, Gill BS, **Li W***. 2014. The Chloroplast view of the evolution of polyploid wheats. *New Phytologist* 204:704-714.
6. Wang J, **Li W***, Wang W. 2014. Fine mapping and metabolic and physiological characterization of the glume glaucousness inhibitor locus *Iw3* derived from wild wheat. *Theor Appl Genet* 127:831-841.
7. Luo M-C, Gu YQ, You FM, Deal KR, Ma YQ, Hu Y, Huo N, Wang Y, Wang JR, Chen SY, Jorgensen CM, Zhang Y, McGuire PE, Pasternak S, Stein JC, Ware DH, Kramer M, McCombie WR, Kianian SF, Martis MM, Mayer KFX, Sehgal SK, **Li W**, Gill BS, Bevan MW, Šimková H, Doležel J, Song W, Lazo GR, Anderson OD, Dvorak J. 2013. A 4-gigabase physical map unlocks the structure and evolution of the complex genome of *Aegilops tauschii*, the wheat D-genome progenitor. *Proc Natl Acad Sci USA.* 110: 7940-7945.
8. **Li W***, Zhu H, Challa GS, Zhang ZZ. 2013. Non-additive interaction in a single locus causes a very short root phenotype in wheat. *Theor Appl Genet.* 126:1189-1200.
9. Zhang Z, Wang W, **Li W***. 2013. Genetic interactions underlying the biosynthesis and inhibition of β -diketones in wheat and their impact on glaucousness and cuticle permeability. *PLoS ONE* 8(1): e54129.
10. Rawat N, Sehgal SK, Joshi A, Rothe N, Wilson DL, McGraw N, Vadlani PV, **Li W**, Gill BS. 2012. A diploid wheat TILLING resource for wheat functional genomics. *BMC Plant Biology* 12:205.
11. Akhunov E, Sehgal S, Liang H, Wang S, Akhunova A, Kaur G, **Li W**, Forrest K, See D, Simkova H, Hayden M, Luo M, Farris J, Dolezel J, Gill BS. 2012. Comparative analysis of syntenic genes in grass genomes reveals accelerated rates of gene structure and coding sequence evolution in polyploid wheat. *Plant Physiol.* 161: 252-265.
12. Sehgal SK, **Li W**, Rabinowicz PD, Šimková H, Doležel J, Gill BS. 2012. Chromosome arm-specific BAC end sequences permit comparative analysis of homoeologous chromosomes and genome of polyploid wheat. *BMC Plant Biol.* DOI: 10.1186/1471-2229-12-6422559868
13. Bi C, Chen F, Jackson L, Gill BS, **Li W***. 2011. Expression of lignin biosynthetic genes in wheat during development and upon infection by fungal pathogens. *Plant Mol Biol Rep* 29: 149-161.

14. Huang L, Brooks S, **Li W**, Fellers J, Nelson JC, and Gill BS. 2009. Evolution of new disease specificity at a simple resistance locus in a crop–weed complex: Reconstitution of *Lr21* gene in wheat. *Genetics* 182: 595-602.
15. Zhang P, **Li W**, Friebe B, Gill B. 2008. The Origin of a “Zebra” chromosome in wheat suggests nonhomologous recombination as a novel mechanism for new chromosome evolution and step changes in chromosome number. *Genetics* 179: 1169–1177
16. Perumal A, **Li W**, Rudd JC, Gill BS, Michels Jr. GJ, Weng Y. 2008. Aphid feeding response and microsatellite-based genetic diversity among diploid *Brachypodium distachyon* (L.) Beauv accessions. *Plant Genetic Resources* 7: 72–79.
17. **Li W***, Huang L, Gill BS. 2008. Recurrent deletions of puroindoline genes at the grain hardness locus in four independent lineages of polyploid wheat. *Plant Physiol* 146: 200-212
18. Gill BS, **Li W**, Sood S, Kuraparthy V, Friebe B, Simons KJ, Zhang Z, Faris JD. 2007. Genetics and genomics of wheat domestication-driven evolution. *Israeli Journal of Plant Science*. 55: 223-229
19. Hill-Ambroz K, Webb CA, Matthews AR, **Li W**, Gill BS, Fellers JP. 2006. Expression analysis and physical mapping of a cDNA library of *Fusarium* head blight infected wheat spikes. *Plant Genome, a Suppl. to Crop Sci.*, 46:S14–S26
20. **Li W**, Gill BS. 2006. Multiple genetic pathways for seed shattering in grasses. *Functional and Integrative Genomics* 6: 300-309
21. Lamoureux D, Peterson DG, **Li W**, Fellers JP, Gill BS. 2005. The efficacy of Cot-based gene enrichment in wheat. *Genome* 48: 1120-1126
22. Weng Y, **Li W**, Devkota R, Rudd J. 2004. Microsatellite markers associated with two *Aegilops tauschii*-derived greenbug resistance loci in wheat. *Theor Appl Genet* 110: 462–469
23. Gill BS, Appels R, Botha-Oberholster A-M, Buell CR, Bennetzen JL, Chumley F, Dvorak J, Iwanaga M, Keller B, **Li W**, McCombie WR, Quetier F, Sasaki T. 2004. A workshop report on wheat genome sequencing----The International Genome Research on Wheat (IGROW) Consortium. *Genetics* 168: 1087-1096
24. **Li W**, Zhang P, Fellers JP, Friebe B, Gill BS. 2004. Sequence composition, organization and evolution of the core Triticeae genome. *Plant Journal* 40: 500-511
25. Yu JK, Dake TM, Singh S, Benscher D, **Li W**, Gill BS, Sorrells ME. 2004. Development and mapping of EST-derived simple sequence repeat markers for hexaploid wheat. *Genome* 47:805-818
26. Zhang P, **Li W**, Fellers J, Friebe B, Gill BS. 2004. BAC-FISH in wheat identifies chromosome landmarks consisting of different types of transposable elements. *Chromosoma* 112: 288-299
27. Zhang P, **Li W**, Friebe B, Gill BS. 2004. Simultaneous painting of three genomes in hexaploid wheat by BAC-FISH. *Genome* 47: 979-987
28. Huang, L, SA Brooks, **W Li**, JP Fellers, HN Trick and BS Gill. 2003. Map-based cloning of leaf rust resistance gene *Lr21* from the large and polyploid genome of bread wheat. *Genetics* 164: 655-664
29. Luo MC, Thomas C, Deal KR, You FM, Anderson OD, Gu YQ, **Li W**, Kuraparthy V, Gill BS, McGuire PE, Dvorak J. 2003 Construction of contigs of *Ae. tauschii*

- genomic DNA fragments cloned in BAC and BiBAC vectors. Proc. 10th Internl. Wheat Genet. Sym., Sept. 1-6, Paestum, Italy, pp. 293-296
30. **Li W***, Nelson CJ, Chu CY, Shi LH, Huang SH, Liu DJ. 2002. Chromosomal locations and genetic relationships of tiller and spike characters in wheat. *Euphytica* 125: 357-366
 31. **Li W**, Gill BS. 2002. The colinearity of the Sh2/A1 orthologous region in rice, sorghum and maize is interrupted and accompanied by genome expansion in the triticeae. *Genetics* 160: 1153-1162
 32. **Li W**, Faris JD, Muthukrishnan S, Liu DJ, Chen PD, Gill BS. 2001. Isolation and characterization of novel cDNA clones encoding chitinases and β -1,3-glucanases from wheat spikelets infected by *Fusarium graminearum*. *Theor. Appl. Genet.* 102: 353-362
 33. Anand A, **Li W**, Sathivel N, Krishnaveni S, Muthukrishnan S, Gill BS, Essig JS, Adams RE, Janakiraman V, Trick HN. 2000. Characterization of wheat PR-protein cDNAs for transformation of wheat to enhance resistance to scab. National Fusarium Head Blight Forum, Dec. 10-12, Erlanger, KT, USA, pp. 5-12
 34. Gill BS, **Li W**, Anand A, Fellers JP, Trick HN, Muthukrishnan S, Liu DJ, Chen PD. 2000. Analysis of genes induced in wheat spikes upon infection with *Fusarium graminearum* and their manipulation to improve wheat plant resistance to Fusarium head scab disease. Proc. Internl. Symp. Wheat Improvement for Scab Resistance, May 5-11, Suzhou and Nanjing, China, pp. 136-139
 35. Liu JY, Liu DJ, Tao WJ, **Li W**, Wang SL, Chen PD, Cheng SH, Gao DR. 2000. Molecular marker-facilitated pyramiding of different genes for powdery mildew resistance in wheat. *Plant Breeding* 119: 21-24
 36. Singh S, **Li W**, Song QJ, Cregan P, Brown-Guedira GL, Gill BS. 2000. Development and physical mapping of microsatellite markers in wheat. 2000 National Fusarium Head Blight Forum, Dec. 10-12, Erlanger, KT, USA, pp. 52-53
 37. Faris JD, **Li W**, Liu DJ, Chen PD, Gill BS. 1999. Candidate gene analysis of quantitative disease resistance in wheat. *Theor. Appl. Genet.* 98: 219-225 (cited 124)
 38. **Li W**, Faris JD, Chittoor J, Leach JE, Liu DJ, Chen PD, Gill BS. 1999. Genomic mapping of defense response genes in wheat. *Theor. Appl. Genet.* 98: 226-233
 39. Qi LL, Cao MS, Chen PD, **Li W**, Liu DJ. 1996. Identification, mapping and application of polymorphic DNA associated with the resistance gene *Pm21* of wheat. *Genome* 39: 191-197
 40. **Li W**, Chen PD, Qi LL, Liu DJ. 1995. Isolation, characterization and application of a species-specific repeated sequence from *Haynaldia villosa*. *Theor. Appl. Genet.* 90: 526-533
 41. **Li W**, Liu DJ, Chen PD, Qi LL. 1993. Cloning of repeated sequences of *Haynaldia villosa* DNA to detect its chromatin in wheat. Proc. 8th Internl. Wheat Genet. Symp. July 20-25, Beijing, China, pp. 817-822
 42. **Li W**, Li ZS, Mu SM. 1992. Chromosomal location of genes for erect flag leaves of common wheat variety Xiaoyan No. 6. English version: *Chinese Journal of Genetics* 19: 21-25
 43. **Li W**, Li ZS, Huang SS. 1990. Chromosomal location of gene for auricle development in common wheat. *Wheat Information Service* 71: 27-28

44. **Li W**, Li ZS, Mu SM. 1990. A cytogenetic study of chromosomal structure changes in common wheat variety Xiaoyan No. 6. *Chinese Journal of Genetics* 17: 255-262

Publications in Chinese

1. Chai SC, Liu DJ, Chen PD, Qi LL, **Li W**, Liu JY. 1999. Cloning and identification of low copy cDNA sequences from *Haynaldia villosa*. *Acta Bot. Boreal. -Occident. Sin.* 19 (2): 177-182. (English abstract)
2. Chai SC, Liu DJ, Chen PD, Qi LL, **Li W**, Cao MS. 1999. A study on species-specific DNA repeats from *Leymus racemosus* and *Psathyrostachy juncea*. I. Isolation and identification. *Acta Univ. Agric. Boreali-occidentalis* 27 (3): 33-37. (English abstract)
3. Chai SC, Liu DJ, Chen PD, Qi LL, **Li W**, Cao MS, Liu JY. 1999. A study on species-specific DNA repeats from *Leymus racemosus* and *Psathyrostachy juncea*. II. Polymorphism among the species of Triticeae. *Acta Univ. Agric. Boreali-occidentalis* 27(4): 1-6. (English abstract)
4. Liu JY, Tao WJ, Liu DJ, Chen PD, **Li W**, Xiang QJ, Duan XY. 1999. Transmission of 6VS chromosome arm in wheat-*Haynaldia villosa* translocation line and genetic stability of *Pm21* carried by 6VS. *Acta Botanica Sinica* 41: 1058-1060. (English abstract)
5. Liu JY, Tao WJ, Liu DJ, **Li W**, Chen PD. 1999. Study on the conversion of RFLP markers co-segregated with Pm4a in to sequence-tagged-site markers. *Journal of Agricultural Biotech* 7: 113-116. (English abstract)
6. Qin GJ, **Li W**, Chen PD. 1999. An update of resistance genes and resistance gene analogs in plants *Journal of Nanjing Agricultural University* 22: 102-107. (English abstract)
7. Wang XE, **Li W**, Liu DJ. 1998. C-banding of two *Psathyrostachys* species. *Journal of Nanjing Agricultural University* 21: 10-13. (English abstract)
8. Chai SC, Liu DJ, Chen PD, Qi LL, **Li W**. 1997. Detection of *Leymus racemosus* chromatin transferred to common wheat using species-specific DNA repeats as molecular markers. *Acta Agronomica Sinica* 23: 641-645. (English abstract)
9. Wang PK, Huang SS, **Li W**. 1993. The Status and perspective of hybrid breeding by nuclear male sterility in wheat. *Wheat-Barley-Triticale* 2: 46-48
10. Huang SS, **Li W**, Xu J, Xue CP. 1991. The development of a blue grain marked nuclear male sterile line and its maintainer in bread wheat. *Acta Agronomica Sinica* 17: 81-87. (English abstract)
11. **Li W**, Li ZS. 1990. A study of ring and isochromosome-like univalents in *Triticum aestivum* L. *Journal of Wuhan Botanical Research* 8: 393-395

Book and Book Chapter

1. **Li W**, Gill BS. 2004. Genomics for cereal improvement. In *Cereal Genomics* (eds. PK Gupta and RK Varshney) pp. 585-634. Kluwer Academic Publishers, Dordrecht/Boston/London, ISBN 1-4020-2358-8 (HB)
2. Liu DJ, Wu LP, Chen PD, **Li W**, Qi LL, Wang XE, Cao MS. 1999. *Cytogenetics* (in Chinese), Agriculture Press, Beijing, China ISBN 7-109-05779-8/S•3757

Conference Abstracts/Presentations

1. **Li W***, Langham MC, Ma Q, Xu SS. 2017. Dissecting the sea wheatgrass genome to transfer biotic stress resistance and abiotic stress tolerance into wheat. National Association of Plant Breeding (NAPB) Conference. 8/7/2017 to 8/9/2017. Davis, California. P TU73.
2. Challa GS, **Li W***. 2015. Transcriptomic and physiological analyses of very short root variant in wheat. Plant Biology 2015-American Society of Plant Biologists. 7/26/2015 to 7/30/2015. Minneapolis, Minnesota.
3. Challa GS, **Li W***. 2014. Assembly and quantification of wheat root transcriptome. McFadden Inaugural Symposium on Wheat Improvement, Sept 23 -24, 2014, Brookings SD.
4. **Li W***, Challa GS, Wei W. 2014. Map-based cloning of *Vsr1*, a negative wheat root regulator. Edgar S. McFadden Inaugural Symposium on Wheat Improvement, Sept 23 -24, 2014, Brookings SD.
5. **Li W***, Zhu H, Wei W, Wang W, Chen F, Paudel D, Yen Y. 2014. Developing solid-stem Triticale as a feedstock for biofuel production. McFadden Inaugural Symposium on Wheat Improvement, Sept 23 -24, 2014, Brookings SD.
6. Zhang Z, Challa CS, Bi C, Trick HN, **Li W***. 2014. W3 is a new wax locus in wheat for β -diketone biosynthesis and important for reducing cuticle permeability. McFadden Inaugural Symposium on Wheat Improvement, Sept 23 -24, 2014, Brookings SD
7. Challa, GS, Zhang ZZ, **Li W***. *De novo* assembly and characterization of wheat root transcriptome. International Triticeae Mapping Initiative 2012. June 25-29, Fargo, ND. P13.
8. **Li W***, Zhu H, Wang J, Challa GS, and Gill BS. 2012. A cytoplasmic view of polyploid wheat evolution. Plant and Animal Genome Conference XX [Abstract P0292].
9. Rawat N, Kalia B, Sehgal S, **Li W**, and Gill BS. 2012. Molecular mapping of the brittle rachis (Br-A1) gene in *Triticum timopheevii*. International Triticeae Mapping Initiative 2012. June 25-29, Fargo, ND. [Abstract P29]
10. Zhang ZZ, **Li W***. Metabolic, physiological and molecular characterization of cuticular wax variation in wheat. 2012 Midwestern Section Annual Meeting of American Society of Plant Biologists. March 24-25, 2012. University of Nebraska-Lincoln, Lincoln, NE. [Abstract P27].
11. Zhang ZZ, Wang W, **Li W***. Metabolic, physiological and molecular characterization of cuticular variation in wheat. International Triticeae Mapping Initiative 2012. June 25-29, Fargo, ND. [Abstract P30].
12. Zhu H, Wang W, Zhang Z, Challa GS, **Li W***. 2012. Dominant gene interaction causes very short root phenotype in wheat. Plant and Animal Genome Conference XX [Abstract P03114].
13. Dvorak J, Luo M, Deal KR, McGuire P, Wang JR, You F, Huo N, Gu YQ, Anderson O, **Li W**, Sehgal SK, Gill BS, Stein J, Pasternak S, Olson A, Ware D, McCombie WR, Martis MM, Mayer K, Dolezel J. 2011. Physical map and shotgun sequence of the *Aegilops tauschii* genome. Plant and Animal Genome Conference XX (<http://pag.confex.com/pag/xx/webprogram/Paper2057.html>)

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 27. **Li W**, Sehgal SK, Gill BS. 2008. Genetic dissection of lignocellulose pathway in wheat for biofuels. Plant and Animal Genome Conference XVI (12-16 January, 2008, San Diego, CA) Abstracts P274.
 28. **Li W***, Huang L, Gill BS. 2008. Recurrent deletions of puroindoline genes at the grain hardness locus in four independent lineages of polyploid wheat. Plant and Animal Genome Conference XVI (12-16 January, 2008, San Diego, CA) Abstracts P279.
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38. **Li W**, Deal K, Kuraparthy V, Gu Y, Dvorak J, Gill BS. 2003. Anchoring of *Aegilops tauschii* BAC contigs to genetic maps with RFLP and EST markers. Plant and Animal Genome Conference XI [P121](#)
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40. Fellers JP, Hill-Ambroz K, **Li W**, Matthews A, and Gill BS. 2002. Expression analysis of a cDNA library of Fusarium head blight infected wheat spikes. Plant and Animal Genome Conference X, [P53](#)
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43. **Li W**, Gill BS. 2001 Colinearity and interruption between rice, sorghum and wheat in the SH2/A1 region. Plant and Animal Genome Conference IX [P353](#)
44. Fellers, J, K Hill-Ambroz, **W Li**, BS. Gill. 2000. Expression patterns of genes from a head scab infected spike cDNA library. 2000 National Fusarium Head Blight Forum pp. 26
45. **Li W**, Faris JD, Muthukrishnan S, Liu DJ, Chen PD, Gill BS. 2000. Isolation and characterization of cDNA clones of acidic chitinases and β -1,3-glucanases from wheat spikes infected by *Fusarium graminearum*. Plant and Animal Genome Conference VIII [P199](#)

Invited Presentations

1. Li W, Yang B. 2017. CRISPR grain regulators for increasing wheat yield potential. International Wheat Yield Partnership. March 21 to 24, Oregon, Mexico
2. Li W. Fine mapping of shattering gene *Br2*. KSRE Seminars, July 19, 2013, Kansas State University, Manhattan, KS
3. Li W. Finding paths towards improving wheat drought tolerance. Life Sci Seminar Series at SDSU, Brookings SD, Dec 7, 2012.
4. Li W, Yen Y. Develop solid-stem triticale as feedstock for biofuel production. North Central Regional Sun Grant Annual conference. Orlando, FL, Jan 13-14, 2011.
5. Li W, Y Yen. Developing solid-stem Triticale as a feedstock for biofuel production. North Central SUNGRANT Annual Conference. Jan 11-13, 2011, Orlando, FL.
6. Li W. Coupling the basic and applied science: genomics-facilitated germplasm enhancement. SD Drought Center Symposium, Aug 26, 2009, Brookings, SD.
7. Gill BS, **W Li***. 2008. Genetic dissection of the lignincellose pathway in wheat for biofuels. Plant and Animal Genome Conference (Jan 2008, San Diego) (*presenter)

8. Gill BS, SK Sehgal, **W Li**, J Faris, L Reddy, KM Devos, CR Buell, P Gornicki, PD Rabinowicz, J Dolezel, H Simkova, J Safar, Y Ma, F Chen, S Lucretti, FM You, M-C Luo. 2008. Towards the construction of a sequence-ready physical map of the 3AS chromosome arm of hexaploid wheat. *In* From Seed to Pasta: The Durum Wheat Chain—International Durum Wheat Symposium (June 30 to July 3, 2008. Bologna, Italy) S. 1.1
9. Gill BS, **W Li**, SK Sehgal, J Faris, L Reddy, KM Devos, CR Buell, P Gornicki, PD Rabinowicz, J Dolezel, H Simkova, J Safar, Y Ma, F Chen, S Lucretti, FM You, M-C Luo. 2008. Progress towards the construction of a sequence-ready physical map of the 3AS chromosome arm of hexaploid wheat. 2007 National Wheat Genomics Conference (30 November – 2 December, Kansas City, MO).
10. Gill BS, **Li W**, Sood S, Kuraparthi V, Friebe B, Simons KJ, Zhang Z, Faris JD. 2007. Genetics and genomics of wheat domestication-driven evolution. The Aaronsohn-ITMI Conference (April 16 - 20, 2007, Tiberias, Sea of Galilee, Israel)
11. Gill BS, **Li W**. 2004. Cereal genome and gene space analysis. Proc. 2nd International Symposium on *Fusarium* Head Blight (11-15 Dec., 2004, Orlando Florida). P. 3
12. *Gill BS, * **Li W**. 2003. A Strategic Plan for Sequencing the Gene-rich Regions of the Wheat Genome? NSF / USDA / IGROW Workshop on Wheat Genome Sequencing (10-11 November 2003. Washington DC) (*co-presenters)
13. Gill BS, **Li W**. 2001. The mechanisms of origin, genome evolution and speciation by allopolyploidy Plant and Animal Genome Conference IX (Jan 2001, San Diego) [W47-01](#)
14. Faris JD, **Li W**, Gill BS, Liu DJ, Chen PD. 1999. Candidate gene analysis of quantitative disease resistance in wheat. Plant and Animal Genome Conference VII (Jan 1999, San Diego) [S11](#)

Sequence Submissions

1. Li W, Gornicki P, Zhu H, Wang J, Challa GS, Zhang ZZ, Gill BS. Twenty five entries of *Triticum/Aegilops* chloroplast DNA, complete. KJ614396 through KJ614420.
2. **Li W**, Huang L, Gill BS. 2007. HGT sequence of *Ha-S* from *Aegilops speltoides*, GenBank accession EU267678; HGT sequence *Ha-G* of *Triticum timopheevii*, GenBank accession EU267679; puroindoline genes from *T. timopheevii*, *T. zhukovskyi*, *T. monococcum*, *Ae. sharonensis*, *T. urartu*, *Ae. speltoides* and their amphiploids, GenBank accessions EU268462 through EU268495.
3. Lamoureux D, Peterson DG, **Li W**, Fellers JP, Gill BS. 2004. 2367 entries of Cot-filtered sequences of wheat genome, CL900626 to CL902992
4. Huang L, Brooks SA, **Li W**, Fellers JP, Trick HN, Gill BS. 2003. Complete sequence of *Lr21*, GenBank accession AY145086; *Aegilops tauschii* cosmid clone 69-7-1 containing *Lr21*, other genes and transposable elements, GenBank accessions AF532105, AF532104 and AH012974; partial sequences of susceptible alleles of *Lr21* from *Triticum aestivum*, GenBank accessions AY139587 and AY139586
5. **Li W**, Zhang P, Fellers J, Friebe B, Gill BS. 2003. 3977 entries of shotgun sequences from *Aegilops tauschii*, GenBank accessions CG672285 to CG676245

6. **Li W**, Zhang P, Fellers J, Friebe B, Gill BS. 2003. 1077 entries of methylation filtered sequences from *Aegilops tauschii*, GenBank accessions CG676246 to CG677323
7. Zhang P, **Li W**, Fellers JP, Friebe B, Gill BS. 2003. Repeated sequences from *Aegilops tauschii*, GenBank accessions AY249979 to AY249982
8. Zhang P, **Li W**, Fellers JP, Friebe B, Gill BS. 2003. Repeated sequences from *Triticum monococcum*, GenBank accessions AY249983 to AY249985
9. **Li W**, Chen PD, Qi LL, Liu DJ. 2002. *Haynaldia villosa*-specific satellite repeat, GenBank accession AF472572
10. **Li W**, Gill BS. 2002. Repeated sequences from *Aegilops speltoides*, GenBank accessions AY082346 and AY082347
11. **Li W**, Gill BS. 2001. Wheat *X1* ortholog, GenBank accession AF434704; wheat *X1* paralog (coding for a transcription factor), GenBank accession AF434705; wheat *X1* paralog, GenBank accession AF434706; wheat *X2* ortholog, GenBank accession AF434707; wheat *A1* gene (coding for Dihydro-4-flavanol reductase), GenBank accession AF434703
12. Fellers JP, **Li W**, Kristi HA, Mathews AR, Gill BS. 2000. 727 entries of ESTs made from *Fusarium graminearum*-challenged Sumai 3 wheat spikelets, GenBank accessions BE585473 to BE586199
13. **Li W**, Faris JD, Muthukrishnan S, Liu DJ, Chen PD, Gill BS. 1999. Complete cDNA sequence for wheat chitinase type IV, GenBank accession AF112966; complete cDNA sequence for wheat chitinase type IIV, GenBank accession AF112963; complete cDNA sequences for wheat β -1,3-glucanases, GenBank accessions AF112965 and AF112967; complete cDNA sequence for wheat small GTP-binding protein, GenBank accession AF112964