CURRICULUM VITAE

XUELU WANG
Howard Hughes Medical Institute,
Plant Molecular and Cellular Biology Laboratory
The Salk Institute for Biological Studies
10010 North Torrey Pines Rd.
La Jolla, California 92037
USA
Tel: (858) 453-4100 X 1128 (Work)
(858) 205-5235 (Mobile)
FAX: (858) 558-6379
Email: wang@salk.edu

EDUCATION AND SCIENTIFIC TRAININGS

2001-Present	Postdoctoral fellow of Howard Hughes Medical Institute, Plant Molecular and Cellular Biology Laboratory, The Salk Institute for Biological Studies, San Diego, California 92037. Advisor: Dr. Joanne Chory
2000-2001	Postdoctoral fellow, Department of Plant Sciences, The University of Arizona, Tucson, Arizona 85721. Advisor: Dr. Brian A. Larkins
2000	Ph.D., Department of Plant Sciences, The University of Arizona, Tucson, Arizona 85721. Major: Plant Sciences; Minor: Genetics Advisor: Dr. Brian A. Larkins
1992	M.S., The Graduate School, Chinese Academy of Agricultural Sciences, Beijing, 100081, China. Major: Plant Genetics and Breeding
1989	B.S., Hebei Agricultural University, Baoding, Hebei, China Major: Plant Genetics and Breeding

RESEARCH EXPERIENCE

- **2001-present, Howard Hughes Medical Institute, Plant Molecular and Cellular Biology laboratory, Salk Institute for Biological Studies, La Jolla, CA92037**

  Please find the detail information in the research statement.

- **1995-2001, Department of Plant Sciences, University of Arizona, Tucson, AZ85721**

  From 1995 to 2001, I did my PhD work and a short postdoctoral research in Dr. Brian Larkins' laboratory. During this period, my projects focus on understanding the genetic, biochemical, and molecular mechanism of maize endosperm texture, and lysine metabolism and accumulation in maize endosperm.

  Using proteomic analysis of several developed Quality-Protein-Maize (QPM) lines, we discovered that increased level of granule-bound starch synthase in maize endosperm is related to starch structures, which accelerates to develop high quality maize with increased kernal hardness (*Gibbon, Wang, and Larkins, PNAS, 2003*). In addition, based on biochemical characterization and quantitative trait loci (QTL) analysis, I identified two genetic loci that regulate the protein-bound lysine content in maize endosperm. Following molecular and cellular analysis, we proposed that the protein-bound lysine content is related to the protein body size and number in maize endosperm (*Wang et al., 2001,Pant Physiol., 125,1271*).

  To investigate the basis for the high free amino acid phenotype of *opaque2* corn, I characterized amino acid accumulation during endosperm development in several wild type and *opaque2* inbreds. Our results suggested that an alteration of amino acid

and carbon metabolism leads to an over-production and accumulation of free amino acids in this genotype (*Wang et al., 2001,Pant Physiol., 125,1766*). We further used biochemical and genetic analysis and identified four genetic loci that regulate free lysine content in maize endosperm, and found that allelic variation of a mono-functional aspartate kinase gene (Ask2) is correlated with a high level of free lysine in some varieties (*Wang et al., 2001, Pant Physiol., 125,1778*). Furthermore, I first cloned and characterized two monofunctional aspartate kinase (*ASK*) genes in maize and investigated how their allelic variation affects ASK's activity using *E. coli* and yeast as heterologous expression systems (*Wang et al., in preparation*). These findings provide significant insights into the mechanisms influencing lysine accumulation in maize endosperm and novel tools to boost lysine content with biotechnology.

PUBLICATIONS

Xuelu Wang and Joanne Chory, BKI1 is a novel negative regulator of BR signaling. In preparation.

Xuelu Wang, Xiaoqing Li, Jill Meisenhelder, Tony Hunter, Shigeo Yoshida, Tadao Asami, and Joanne Chory (2005) Autoregulation and homodimerization are involved in the activation of the plant steroid receptor BRI1. Dev. Cell, 8: 855-865.

Xuelu Wang, Bertrand Gakiere, Jose A. Lopez-Valenzuela, Gad Galili, and Brian A Larkins (2005) Cloning and characterization of mono-functional aspartate kinase genes in maize, and their relationship with a QTL influencing free lysine content. In preparation.

Bryan C. Gibbon, **Xuelu Wang**, and Brian A. Larkins (2003) Altered starch structure is associated with endosperm modification in Quality Protein Maize. Proc Natl Acad Sci USA. 100: 15329-15334.

Rongling Wu, Xiang-Yang Lou, Chang-Xing Ma, **Xuelu Wang**, Brian A. Larkins, and George Casella (2002) An improved genetic model generates high-resolution mapping of QTL for protein quality in maize endosperm. Proc Natl Acad Sci USA, 99:11281-11286.

Xuelu Wang, David K Stumpf, and Brian A Larkins (2001) Aspartate Kinase 2. A Candidate Gene of a Quantitative Trait Locus Influencing Free Amino Acid Content in Maize Endosperm. Plant Physiology 125: 1778-1787

Xuelu Wang and Brian A Larkins (2001) Genetic Analysis of Amino Acid Accumulation in *opaque-2* Maize Endosperm. Plant Physiology 125: 1766-1777

Xuelu Wang, Youngmin Woo, Cheolsoo Kim, and Brian A Larkins (2001) Quantitative trait locus mapping of loci influencing elongation factor 1α content in maize endosperm. Plant Physiology 125: 1271-1282

THESIS AND DISSERTATION

- 2000, **Biochemical and Genetic analysis of Factors Influencing Lysine Content in Maize (*Zea mays* L.) Endosperm.** Ph.D. dissertation, Department of Plant Sciences, The University of Arizona, Tucson, AZ, USA
- 1992, **Studies on the Classification of Wheat Improved Cultivars in Northern Winter Wheat Region of China.** M.S. thesis, The Graduate School, and Institute of Crop Genetic Resources, Chinese Academy of Agricultural Sciences, Beijing, China.

PRESENTATIONS AND ATTENDANCE OF SCIENTIFIC MEETINGS

- Poster presentation, "Autoregulation and homodimerization are involved in the activation of the plant steroid receptor BRI1", Protein Phosphorylation and Cell Signaling meeting, May 18-22, 2005, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY

- Attendance, The 10th Meetings on Protein Phosphorylation and Cell Signaling Workshop, June 25-29, 2004, La Jolla, CA
- Attendance, Protein Phosphorylation Workshop, December 11-14, 2003, Asilomar Conference Grounds, Pacific Grove, CA
- Poster presentation, "Structural-functional analysis of BRI1 reveals its activation mechanism", 14th International Conference on Arabidopsis Research, June 20 - 24, 2003, Madison, WI.
- Attendance, The Plant Biology Symposium, January 15-18, 2003, Riverside, CA
- Poster presentation, The ASPB 2001 Annual Meeting, July 21–25, Providence, RI
- Oral presentation, Plant Foods for Human Health: Manipulating Plant Metabolism to Enhance Nutritional Quality (2001 Keystone Symposia), April 6-11, 2001, Breckenridge, CO
- Poster presentation, Plant & Animal Genome IX Conference, January 13-17, 2001, San Diego, CA
- Poster presentation, The ASPB 2000 Annual Meeting, July 15-19, San Diego, CA
- Poster presentation, The 42nd Annual Maize Genetics Conference, March 16-19, 2000, Coeur d'Alene, ID
- Poster presentation, The ASPP 1999 Annual Meeting, July 24–28, Baltimore, MD

TEACHING AND SUPERVISION EXPERIENCE

- **Fall (September – November) of 2004**, as mentor of Kendra Hogan, a rotation graduate student of University of California at San Diego (UCSD).
- **Summer (June – September) of 2004**, as mentor of Eunice Chen, an undergraduate student of UCSD.
- **September of 2003 to May of 2004**, I supervised a volunteer trainee, Xiaoqing Li, to study the regulation of receptor-like kinases and gain hand-on experience on biochemistry, molecular biology, and genetics.
- **Summer (June – August) of 2003**, as mentor of Francis Decastro, a high school student who did summer intern and gained basic training in a plant molecular biology laboratory.
- **Spring (January – March) of 2002**, as mentor of Laura Taylor, a rotation graduate student of UCSD.
- **Fall, 1999.** I was a teaching assistant for a course entitled "Plants and Our World", Department of Plant Sciences, The University of Arizona, Tucson, AZ.
- **Springs of 1991-1995**, I supervised groups of undergraduate students for their graduation practice training in Institute of Crop Genetic Resources, Chinese Academy of Agricultural Sciences, Beijing, China.

MEMBERSHIP OF SCIENTIFIC SOCIETIES

- The American Society of Plant Biologists
- American Association for the Advancement of Science