Xiaofei **Zhang**

Assistant Professor, Molecular Genetics and Breeding of Small Grains Crops

University of California, Davis

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Profile

- Lead the small grains crop breeding program with purpose, trust, consistency, and clear communication.
- Commit to promoting diversity, equity, and inclusion in research, teaching, and service.
- Have more than 10 years of experience in variety development and improvement.
- Master genomics, quantitative genetics, statistics, and experimental design.
- Advanced ability to program in R to analyze data and develop tools.

Experience

UC Davis, Department of Plant Sciences — *California, USA*

Assistant Professor | Molecular Genetics and Breeding of Small Grains Crops — *2024-Present*

The Alliance of Bioversity International and CIAT, CGIAR — *Cali, Colombia*

Global Cassava Breeding Lead — *2019-2024*

North Carolina State University — *North Carolina, USA*

Sweetpotato Breeder — *2017-2019*

University of Minnesota — *Minnesota, USA*

Wheat and Wheatgrass Breeding-Research Associate — *2012-2017*

Institute of Crop Sciences, Chinese Academy of Agricultural Sciences — *Beijing, China*

Wheat Breeding-Postdoctoral Researcher — *2010-2012*

Education

Shenyang Agricultural University — *Liaoning, China*

BS in Agronomy — *2000-2004*

University of Chinese Academy of Sciences — *Beijing, China*

Ph.D. in Plant Breeding — *2004-2010*

Certificates

High Performance Leadership — *2020*

eCornell-Cornell University

Change Management — *2021*

eCornell-Cornell University

Executive Leadership — *2022*

eCornell-Cornell University

Publications (selected)

1. Erika Paola Barinas Rodrmguez, Nelson Morante, Sandra Salazar, Peter T Hyde, Tim L Setter, Peter Kulakow, Johan Steven Aparicio, **Xiaofei Zhang**. (2023) Flower-inducing technology facilitates speed breeding in cassava. *Frontiers in Plant Science* 14: 1172056
2. Cu Thi Le Thuy, Luis Augusto Becerra Lopez-Lavalle, Nguyen Anh Vu, Nguyen Huu Hy, Pham Thi Nhan, Hernan Ceballos, Jonathan Newby, et al. **Xiaofei Zhang**. (2021) Identifying new resistance to cassava mosaic disease and validating markers for the CMD2 locus. *Agriculture* 11, 829.
3. Hernán Ceballos, Clair Hershey, Carlos Iglesias, **Xiaofei Zhang**. (2021) Fifty years of a public cassava breeding program: evolution of breeding objectives, methods, and decision-making processes. *Theoretical and Applied Genetics* (2021) 134:2335–2353.

4. Prabin Bajgain, **Xiaofei Zhang**, Jacob M. Jungers, Lee R. DeHaan, Brett Heim, Craig C. Sheaffer, Donald L. Wyse, James A. Anderson. (2020) 'MN-Clearwater', the first food-grade intermediate wheatgrass (Kernza perennial grain) cultivar. *Journal of Plant Registrations*.
5. Steve Larson, Lee DeHaan, Jesse Poland, **Xiaofei Zhang**, Kevin Dorn, Traci Kantarski, James Anderson, Jeremy Schmutz, Jane Grimwood, Jerry Jenkins, Shengqiang Shu, Jared Crain, Matthew Robbins & Kevin Jensen. (2019) Genome mapping of quantitative trait loci (QTL) controlling domestication traits of intermediate wheatgrass (Thinopyrum intermedium). *Theoretical and Applied Genetics* v132, 2325–2351.
6. **Xiaofei Zhang**, Liangliang Gao, Ahmad Sallam, Soon Li Teh, Donald L. Wyse, Lee DeHaan, James A. Anderson. (2017) Uncovering the Genetic Architecture of Seed Weight and Size in Intermediate Wheatgrass through Linkage and Association Mapping. *The Plant Genome*.
7. Traci Kantarski, Steve Larson, **Xiaofei Zhang** (co-first author), Lee DeHaan, Justin Borevitz, James A. Anderson, Jesse Poland. (2017). Development of the first consensus genetic map of intermediate wheatgrass (Thinopyrum intermedium) using genotyping-by-sequencing. *Theoretical and Applied Genetics*.
8. **Xiaofei Zhang**, Ahmad Sallam, Liangliang Gao, Traci Kantarski, Jesse Poland, Donald L. Wyse, Lee DeHaan, James A. Anderson. (2016) Establishment and optimization of genomic selection to accelerate the domestication of intermediate wheatgrass (Thinopyrum intermedium). *The Plant Genome*.
9. Michael Kantar, Catrin Tyl, Kevin Dorn, **Xiaofei Zhang** (co-first author), Jacob Jungers, Joe Kaser, Rachel Schendel, James Eckberg, Bryan Runck, Mirko Bunzel, Nick Jordan, Robert Stupar, David Marks, James Anderson, Gregg Johnson, Craig Sheaffer, Tonya Schoenfuss, Baraem Ismail, George Heimpel, Donald Wyse. (2016) Perennial Grain and Oilseed Crops. *Annual Review of Plant Biology*.
10. Guangbin Luo, **Xiaofei Zhang**, Yanlin Zhang, Wenlong Yang, Yiwen Li, Jiazhu Sun, Kehui Zhan, Aimin Zhang, Dongcheng Liu. (2015) Composition, variation, expression and evolution of low-molecular-weight glutenin subunit genes in Triticum urartu. *BMC Plant Biology*. 15:68.
11. **Xiaofei Zhang**, Lee R. DeHaan, LeeAnn Higgins, Todd W. Markowski, Donald L. Wyse, James A. Anderson. (2014) New insights into high-molecular-weight glutenin subunits and subgenomes of the perennial crop Thinopyrum intermedium (Triticeae). *Journal of Cereal Science*. 59: 203-210.
12. **Xiaofei Zhang**, Dongcheng Liu, Jianghua Zhang, Wei Jiang, Guangbin Luo, Wenlong Yang, Jiazhu Sun, Yiping Tong, Dangqun Cui, Aimin Zhang. (2013) Novel insights into the composition, variation, organization, and expression of the low-molecular-weight glutenin subunit gene family in common wheat. *Journal of Experimental Botany*. 64: 2027-2040.
13. **Xiaofei Zhang**, Hui Jin, Yan Zhang, Dongcheng Liu, Genying Li, Xianchun Xia, Zhonghu He and Aimin Zhang. (2012) Composition and functional analysis of low-molecular-weight glutenin alleles with Aroona near-isogenic lines of bread wheat. *BMC Plant Biology*. 12: 243.
14. **Xiaofei Zhang**, Dongcheng Liu, Wenlong Yang, Kunfan Liu, Jiazhu Sun, Xiaoli Guo, Yiwen Li, Daowen Wang, Hongqing Ling, Aimin Zhang. (2011) Development of a new marker system for identifying the complex members of the low-molecular-weight glutenin subunit gene family in bread wheat (Triticum aestivum L.). *Theoretical and Applied Genetics*. 112: 1503-1516
15. Lingli Dong, **Xiaofei Zhang** (co-first author), Dongcheng Liu, Huajie Fan, Jiazhu Sun, Zhongjuan Zhang, Huanju Qin, Bin Li, Shanting Hao, Zhensheng Li, Daowen Wang, Aimin Zhang, Hongqing Ling. (2010) New insights into the organization, recombination, expression and functional mechanism of low molecular weight glutenin subunit genes in bread wheat. *PLoS ONE*. 5(10): e13548.
16. And more on **Google Scholar**

Presentations (3 years)

1. Transforming Cassava Breeding: Toward Genome Design in Hybrid Breeding (2024) *PAG 31 in San Diego, CA*
2. CassavaBase: Empowering Data-Driven Decision-Making in the CIAT Cassava Breeding Program (2024) *PAG 31 in San Diego, CA*
3. Genomics and Self-pollination Accelerate Cassava Breeding (2023) *PAG 30 in San Diego, CA*
4. Modernize Cassava Breeding for Global Impact (2022) *Theory and Technological Innovation of Green and Healthy Production of Tropical Crops, Hainan, China*
5. Hybrid Breeding in Cassava (2022) *The 19th International Triennial Symposium of the International Society for Tropical Root Crops in Nairobi, Kenya*
6. Implement cassava breeding modernization at the Alliance (2022) *The 19th International Triennial Symposium of the International Society for Tropical Root Crops in Nairobi, Kenya*
7. Genomics assisted selection in cassava breeding (2022) *The 19th International Triennial Symposium of the International Society for Tropical Root Crops in Nairobi, Kenya*

8. Genomics and Self-pollination Accelerate Cassava Breeding (2022) *The 2022 International Conference on the Cooperation of Industry, Education, Research and Application, Hainan, China*
9. Cassava Breeder Workshop – Breeding Program Modernization (2022) *Cassava Breeder Workshop – Breeding Program Modernization in Cali, Colombia*
10. Germplasm and Tools for Developing Cassava Varieties Resistant to Cassava Mosaic Disease (2021) *The International Symposium – Towards Development of Cassava Mosaic Disease Resistant Varieties in South-east Asia*
11. Accelerated Cassava Breeding to Meet Farmers' Needs (2021) *Annual meeting of China Society of Tropical Crops in Guangzhou, China*
12. Training Courses on Conventional Plant Breeding and Biofortified Cassava Seed Production (2021) *Workshop on Cassava Breeding and Seed System in Cali, Colombia*
13. SNP Markers for Quality Control in Cassava (2021) *Plant and Animal Genome XXIX in San Diego, CA*
14. Genomics-assisted Recurrent Selection and Hybrid Breeding in Cassava (2021) *Plant and Animal Genome XXIX in San Diego, CA*

Grants

High-density genetic mapping of intermediate wheatgrass QTLs associated with disease and agronomic traits, Co-PI — *$149,559*
Forever Green Initiative — *2014-2017*

Advance the intermediate wheatgrass materials using phenotype and genomic selection-based selection methods, Co-PI — *$51,787*
Forever Green Initiative — *2015-2017*

Dissecting the genetic architecture of agronomic traits in intermediate wheatgrass using genome-wide analysis, Co-PI — *$193,000*
The Land Institute and Malone Family — *2015-2018*

Identifying DNA Markers for Selection of Meloidogyne enterolobii-resistant Sweetpotato Clones, Co-PI — *$15,000*
NC Crop Improvement Association (NCCIA) and NC Foundation Seed Producers (NCFSP), Inc — *2019-2020*

Breeding Roots, Tubers and Banana products for end user preferences, Co-PI — *$419,040*
The Bill & Melinda Gates Foundation — *2017-2023*

NextGen Cassava, Co-PI — *$2,002,309*
The Bill & Melinda Gates Foundation — *2018-2023*

Develop the next-generation cassava varieties with low amylose, PI — *$1,960,240*
Ingredion — *2019-2022*

Enhancing the nutritional quality of cassava roots to improve the livelihoods of farmers in marginal agriculture land in Africa, Haiti, and North-Colombia, PI — *$545,000*
HarvestPlus — *2019-2022*

Mining useful alleles for climate change adaptation from CGIAR gene banks, Co-PI — *$2,117,514*
The Bill & Melinda Gates Foundation — *2022-2026*

Roots, tubers and banana crop breeding-cassava breeding at CIAT, Co-PI — *$558,108*
The Bill & Melinda Gates Foundation — *2023-2024*

Develop the molecular markers for cassava ID card, Co-PI — *$175,800*
Tropical Crops Genetic Resources Institute, CATAS, China — *2023-2025*

Cassava breeding for CMD resistant, high starch content and erect plant type varieties, Co-PI — *$162,148*
VIN Future Foundation — *2023-2027*

Upgrading infrastructure and facilities for accelerated breeding and genetic gain in cassava, Co-PI — *$385,000*
Crop to End Hunger Initiative — *2023-2024*

Doubled Haploid Cassava using AI-powered ultra-high throughput single cell technologies, PI — *$2,125,894*
The Bill & Melinda Gates Foundation — *2023-2027*

Awards

National Scholarship for excellent undergraduate students

Nationwide Scholarship *2003*

Outstanding Paper Award, Rank #1

The 6th National Wheat Breeding and Genetics Conference *2010*

Postdoctoral Scholarship

China Postdoctoral Science Foundation *2011*

Travel award

Microbial and Plant Genomics Institute, University of Minnesota *2014*

Travel award

Microbial and Plant Genomics Institute, University of Minnesota *2016*

Service

Associate Editor

Journal of Crop Improvement *2014-2017*

Associate Editor

Cereal Research Communications *2015-2018*

Guest Editor

Agriculture *2021*

Topic editor

Fronteirs in Plant Science *2022*

Program regional coordinator in the Latin American region

Administrative Activities *2022-2024*

Member of CGIAR Breeding Data Governances Network Core Team

Committee *2022-2023*

Associate Editor

Tropical Plants *2021-present*