Zhongjie Ji

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Education：

Michigan State University – East Lansing, MI   May 2018 –Dec 2023
PhD in Plant Breeding, Genetics, and Biotechnology
Enrolled in with NRT-IMPACTS trainee program/certificate in Computational Plant Sciences
Department of Plant Soil Microbial Sciences / Plant Resilience Institute

Purdue University - West Lafayette, IN   Aug 2016 – May 2018
MS in Agronomy

Shandong Agricultural University - Taian, China   Aug 2012 – Jul 2016
BS in Agronomy

Work/Research Experience：

Heuermann Postdoctoral Fellowship (Independent) - University of Nebraska-Lincoln   Mar 2024 – Now
  Conduct Phenotyping Research for Advanced Plant Breeding and Genetics

Research Assistant – Michigan State University   May 2018 – Dec 2023
  Advanced Canopy Architecture Modeling to Improve Prediction of Maize Growth

Corn Grain Quality Research – Corteva Agriscience   Jun 2022 – Sept 2022
  Evaluation and Analysis of Grain Quality in Commercial Hybrids Under Abiotic Stress
  Farming Solution Digital: Whole Genome Prediction x Crop Growth Model

Teaching Assistant – Michigan State University   Jan 2020 – May 2020
  CSS350 Introduction to Plant Genetics

Research Assistant – Purdue University   Aug 2016 – May 2018
  Effects of Plant Growth Regulators on Salinity Tolerance in Perennial Ryegrass

Selected Publications：

- **Ji Z**., Davis J, Shrestha N, Ge, Y, and Schnable J. (2024) Zero-Shot CLIP-Assisted Feature Extraction and Robust Regression for Generalized Time Series Image Analysis in Predicting Flowering Time. Machine Learning for Cyber-Agricultural Systems 2024 :11

- Bryson AE, Wilson Brown M, Mullins J, Dong W, Bahmani K, Bornowski N, Chiu C, Engelgau P, Gettings B, Gomezcano F, Gregory LM, Haber AC, Hoh D, Jennings EE, **Ji Z**, Kaur P, Kenchanmane Raju SK, Long Y, Lotreck SG, Mathieu DT, Ranaweera T, Ritter EJ, Sadohara R, Shrote RZ, Smith KE, Teresi SJ, Venegas J, Wang H, Wilson ML, Tarrant AR, Frank MH, Migicosvky Z, Kumar J, VanBuren R, Londo JP, Chitwood DH (2020) Composite Modeling of Leaf Shape across Shoots Discriminates Vitis Species Better than Individual leaves. Applications in Plant Sciences. 8(12): 11404.

- Zhao X., Nie G., Yao Y., **Ji Z**., Gao J., Wang X., and Jiang Y. (2020) Natural Variation and Genomic Prediction

of Growth, Physiological Traits, and Nitrogen-use Efficiency in Perennial Ryegrass under Low-nitrogen Stress. Journal of Experimental Botany. 71: 6670-6683.

- **Ji Z**., Camberato JJ., Zhang C., and Jiang Y. (2019) Products Effects of 6-Benzyladenine, γ Aminobutyric Acid, and Nitric Oxide on Plant Growth, Photochemical Efficiency, and Ion Accumulation of Perennial Ryegrass Cultivars to Salinity Stress. HortiScience.54: 1418-1422.

- Nie G., Huang L., Ma X., **Ji Z**., Zhang Y., Tang Lu., and Zhang X., (2017) Enriching Genomic Resources and Transcriptional Profile Analysis of Miscanthus sinensis under Drought Stress Based on RNA Sequencing. International Journal of Genomics. 2017:9184731.

Presentations：

- **Ji Z** Temporal UAV Surveys for Robust and Accurate Maize Flowering Time Prediction. Mar 8, 2025; Maize Genetics Conference St. Louis, MO. Poster Presentation

- **Ji Z** Scalable Methods for Quantifying the Stay Green Ability of Corn for Yield Prediction by Using Satellite Image. Mar 6, 2025; Corn Breeding Research; St. Louis, MO. Oral Presentation

- **Ji Z** Temporal UAV Surveys for Robust and Accurate Maize Flowering Time Prediction. Mar 4, 2025; 2025 Nebraska Plant Science Symposia Series; Lincoln, NE. Oral Presentation

- **Ji Z** From High Throughput Phenotyping for Traits prediction to Digital Twin Crop for Breeding; Beijing Forestry University Nov 30, Beijing, China; Seminar Presentation

- **Ji Z**., Davis J, Ge, Y, and Schnable J Grow Once, Phenotype Forever: Establishing a Reference Phenotype for a Maize Population; International Plant Phenotyping Symposium (IPPS&IPPN) Oct 9, Lincoln, NE; Poster Presentation

- **Ji Z**., Davis J, Shrestha N, Ge, Y, and Schnable J. Zero-shot CLIP-assisted Feature Extraction and Robust Regression for Generalized Time Series Image Analysis in Predicting Flowering Time. Oct 7 MLCAS, Lincoln, NE; Oral & Poster Presentation

- **Ji Z** Integrating Satellite and UAV Imagery for Phenotyping in the Field Sep 16, 2024; Center of Plant Science Innovation (PSI); UNL, NE; Seminar Presentation

- **Ji Z** Advanced Canopy Architecture Modeling to Improve Prediction of Maize Growth Jun 5, 2024; Collective Research Organization of Plant Scientists (CROPS); UNL, NE Seminar Presentation

- **Ji Z** Advanced Canopy Architecture Modeling to Improve Prediction of Maize Growth. Jun 4, 2024; Oak Ridge National Laboratory; Virtual; Seminar Presentation

- **Ji Z**., and Thompson A. Undertaker: A Stereo Imaging System to Explore Latent Canopy Traits. Mar 18, 2023; Maize Genetics Conference; St. Louis, MO. Poster Presentation

- **Ji Z** Exploring the Impact of Subpopulation, Marker number, and the Algorithms on Genomic Prediction across a Small NAM Population. Mar 16, 2023; 2023 Corn Breeding Research; Oral Presentation

- **Ji Z**., Newton L., Thompson A. The Exploration of UAS-based Multispectral Imaging in Field Phenotyping**.** Mar 31, 2022; Maize Genetics Conference; St. Louis, MO. Poster presentation

- **Ji Z**., and Thompson A. Genetic Analysis of Field Measured Data from Genomes to Fields in Michigan. Mar 8, 2021; Annual Maize Genetics Conference; Virtual; Poster Presentation

- **Ji Z**., Erik A., Chitwood D., and Thompson A. Analyzing Maize leaf Angles and Modeling Leaf Curvature. Feb 16, 2021; 2021 G2F Maize GxE Project Collaborator's Meeting North American Plant Phenotyping Network (NAPPN) Conference; Virtual; Oral and Poster Presentation

- **Ji Z**., and Thompson A. Application of High Throughput Phenotyping in Maize Canopy Trait Measurement. Feb 20, 2021; Corn Breeding Research 2021 – Virtual; Lightening Talk

- **Ji Z**., and Thompson A. Integrating Genomic Prediction and Phenotyping by Imaging using Crop Growth Models to Describe Genome-Environment Interactions. Mar 15, 2019; Maize Genetics Conference; St. Louis, MO. Poster presentation

- **Ji Z**., Camberato J.J., Zhang C., and Jiang Y. Application of Plant Growth Regulators on Growth and Physiological Responses of Perennial Ryegrass Under Salinity Stress. Crop Science Society of America; Oct 23, 2017; Tampa, FL. Poster presentation

- **Ji Z**., and Jiang Y. Effects of the Exogenous Application of Plant Growth regulators on Growth and Physiological Response of Perennial Ryegrass under Salt Stress. Plant Growth Regulation Society of America; Aug 7, 2017; Anchorage AK. Poster presentation

Books：
- Precision Agriculture Book   2025, On-going, ASA CSSA, SSSA

Scientific Peer Reviews：
- Machine Learning for Cyber-Agricultural Systems 2024 (MLCAS2024) *4
- Plant and Soil *1
- PLoS ONE *2

Mentoring：
Complex biosystems rotation student (Niranjan Pokhrel) in Schnable lab   2024 Fall
Research experiences for undergraduates (REU) in Thompson lab (MSU)   2020&2021 Summer

Honors and Awards：
- Heuermann Postdoctoral Fellowship   Mar 2024
- PBGB Endowment scholarship MSU   May 2022
- NRT-IMAPCT (NSF) travel scholar, MSU&NSF   Feb 2020
- NRT-IMPACTS (NSF) fellow, MSU&NSF   Jan 2019
- George D. Scarseth Scholarship, Purdue University   Sep 2017

Service:
- Poster Judge - American Society of Plant Biologists (ASPB) Midwest   2025
- Poster Judge - UNL Plant Science Retreat   2024
- Organizer and lecturer for Internal UAV Phenotyping training workshop-Michigan Stata University 2021&2022
- Field day in Michigan for showing phenotyping research Michigan Stata University   2019 &2023
- Organizer and lecturer for Mini-Data Carpentry Workshop on Genomics -Michigan Stata University Dec 2019
- Evaluation and Finance committee member for PBGB Symposium - Michigan Stata University   Nov 2019
- Planning Committee Member for Plant Science Research Symposium- Michigan State University   Mar 2019