

JUNXIAO ZHANG

Department of Biological Systems Engineering, University of Nebraska-Lincoln

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EDUCATION

University of Nebraska–Lincoln

PhD. Biological/Biological Systems Engineering

Advisor: Dr. Yufeng Ge

Expected Dec 2026

Lincoln, Nebraska

University of Nebraska–Lincoln

M.S. Agricultural & Biological Systems Engineering

Advisor: Dr. Yufeng Ge

May 2023

Lincoln, Nebraska

The Ohio State University

B.S. Agricultural Engineering

May 2021

Columbus, Ohio

RESEARCH EXPERIENCE

Graduate Research Assistant

June 2021 - Present

University of Nebraska-Lincoln, Department of Biological System Engineering

- Conducted research in high-throughput plant phenotyping, focusing on innovative imaging techniques and data analysis
- Conducted experiments on stomatal conductance estimation
- Developed data pipelines for large-scale phenotypic analysis

PUBLICATION

1. **Zhang, J.**, Thapa, K., and Ge, G. F. B. . Y. (2025). Improved estimation of stomatal conductance by combining high-throughput plant phenotyping data and weather variables through machine learning. *Agricultural Water Management*, 309:109321. <https://doi.org/10.1016/j.agwat.2025.109321>
2. **Zhang, J.**, Thapa, K., Chamara, N., and Bai, Geng & Ge, Y. (2023). Estimating crop stomatal conductance from rgb, nir, and thermal infrared images. In Thomasson, J. A. and Bauer, C., editors, *Autonomous Air and Ground Sensing Systems for Agricultural Optimization and Phenotyping VIII*, volume 12539, page 125390A. SPIE. <https://doi.org/10.1117/12.2663888>

TEACHING EXPERIENCE

Co-Instructor

University of Nebraska-Lincoln

BSEN 460 Instrumentation & Controls

Autumn 2024

- Delivered lectures and lab sessions, held office hours, and prepared experimental setups.
- Used project-based learning to help students learn through real-world challenges.

Teaching Assistant

University of Nebraska-Lincoln

BSEN 260 Instrumentation I

Spring 2024

BSEN 460 Instrumentation & Controls

Autumn 2022

- Delivered lab sessions, graded assignments, and prepared experimental setups

The Ohio State University

FABE 3130 Heat & Mass Transfer

Spring 2021

FABE 3150 System Dynamic & Electricity

Spring 2021

- Graded assignments, supported lab sessions, and prepared experimental setups

CONFERENCE PRESENTATION

1. **Zhang, J.**, Chamara, N., Bai, G., & Ge, Y. Estimate Stomatal Conductance of Maize and Soybean Plants in Greenhouse via Imaging and Pot Weighting. ICPA 2024, Manhattan, KS; also presented at ASABE 2024, Anaheim, CA.
2. **Zhang, J.**, Chamara, N., Bai, G., & Ge, Y. Diurnal Variation of NDVI for Soybean and Maize under Different Water Treatments. NAPPN 2024, West Lafayette, IN.
3. **Zhang, J.**, Chamara, N., Thapa, K., Bai, G., & Ge, Y. Estimating Crop Stomatal Conductance from RGB, NIR, and Thermal Infrared Images. SPIE 2023, Orlando, FL.
4. Thapa, K., **Zhang, J.**, Bai, G., & Ge, Y. Characterization of Maize Responses to Differential Nitrogen Rates using Image-Based Phenotyping. NAPPN 2023, St. Louis, MO.
5. **Zhang, J.**, Chamara, N., Thapa, K., Bai, G., & Ge, Y. Estimating Maize and Soybean Stomatal Conductance Based on Time Series Canopy Temperature, NDVI and Weather Conditions. NAPPN 2023, St. Louis, MO.
6. **Zhang, J.**, Thapa, K., Bai, G., & Ge, Y. Estimating Winter Wheat Stomatal Conductance Using Thermal and Spectral Imaging, Weather Variables, and Machine Learning. ASABE 2022, Houston, TX.

AWARDS & HONORS

Milton Mohr Fellowship <i>University of Nebraska-Lincoln</i>	<i>2024 - 2025</i>
David H. and Annie E. Larrick Graduate Student Travel Award <i>University of Nebraska-Lincoln</i>	<i>2022</i>
Dean's List <i>The Ohio State University</i>	<i>2021</i>

PROFESSIONAL ACTIVITIES

Undergraduate Proposal Reviewer <i>University of Nebraska-Lincoln</i>	<i>2023 - 2024</i>
Secretary <i>The Association of Overseas Chinese Agricultural, Biological, and Food Engineers</i>	<i>2023 - 2024</i>
Website Editor <i>The Association of Overseas Chinese Agricultural, Biological, and Food Engineers</i>	<i>2022 - 2024</i>

PROFESSIONAL SOCIETY MEMBERSHIPS

ASA, CSSA, and SSSA	<i>Since 2025</i>
The International Society of Precision Agriculture	<i>Since 2024</i>
North American Plant Phenotyping Network	<i>Since 2022</i>
American Society of Agricultural and Biological Engineers	<i>Since 2021</i>

SKILLS

- Programming languages & Software**
- C/C++, MATLAB, Python, Linux, R
 - SOLIDWORKS, AutoCAD
- Languages**
- English (Proficient), Chinese (Native)