

# Xuanyi Chen

PhD in Plant Molecular Genetics

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## EDUCATION

### **PhD in Genetics (Plant Molecular Genetics) | Sep 2021 - Dec 2025**

Northwest Agriculture & Forestry University, Yangling, China

Advisor: Prof. Cun Wang

### **BSc in Biotechnology (Honor Diploma) | Sep 2017 - Jun 2021**

Northwest Agriculture & Forestry University, Yangling, China

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## RESEARCH EXPERIENCE

### **Graduate Research Fellow | Jun 2021 - Dec 2025**

College of Life Sciences, Northwest A&F University

- Investigating molecular mechanisms underlying plant sulfur-deficiency responses, focusing on brassinosteroid and calcium signaling pathways.
- Integrated molecular genetics, biochemistry, cell biology, and multi-omics approaches.

### **Undergraduate Research Assistant – Epigenome Editing | Jun 2020 - Jun 2021**

Advisor: Dr. Israel Ausin

- Designed zinc finger-tagged SWR1 chromatin remodeling complex subunits to profile protein-DNA interactions.

### **Undergraduate Research Assistant – Virome Analysis | Sep 2018 - Jun 2020**

Advisor: Dr. Weimin Chen

- Characterized the rhizosphere virome of *Robinia pseudoacacia* L. and isolated bacteriophage strains.

## **Undergraduate Research Assistant – Bioinformatics Training | Sep 2017 – Jun 2018**

Advisor: Dr. Ruolin Yang

- Performed TCGA data mining and received foundational training in bioinformatics.
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## **PUBLICATIONS (\* equal contribution)**

**Chen X.**, Yu Z., Guo W., Zhou Y., Wang C.#, Wang T.# (2025)

Brassinosteroid signaling promotes sulfate uptake under sulfur deficiency in *Arabidopsis*.

*New Phytologist* 248: 250–264.

Jia M., **Chen X.**, Shi X., Fang Y., Gu Y.# (2023)

Nuclear transport receptor KA120 regulates molecular condensation of MAC3 to coordinate plant immune activation.

*Cell Host & Microbe* 31: 1685–1699.e7.

Wang T., **Chen X.**, Ju C.#, Wang C.# (2023)

Calcium signaling in plant mineral nutrition: From uptake to transport.

*Plant Communications* 4: 100678. (Highly cited review)

Fang Y.\*, Ju C.\*, Javed L.\*, Cao C., Deng Y., Gao Y., **Chen X.**, Sun L., Zhao Y., Wang C.# (2025)

Plasma membrane-associated calcium signaling modulates zinc homeostasis in *Arabidopsis*.

*Science Bulletin*.

**Chen X.**, Li S.#, Chen W., Meng Q. (2021)

Characters of light-sheet fluorescence microscope and its application.

*Shengwujishu Jinzhan* 11: 126–147. (Review, Chinese)

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## **FUNDING**

Undergraduate Training Program for Innovation and Entrepreneurship (2019–2021)

Total award: 3,500 CNY

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## **AWARDS & HONORS**

National Scholarship for Doctoral Students, 2025

First-Class Scholarship, 2023

Second-Class Scholarship, 2021, 2022, 2024

Advanced Undergraduate of Technological Innovation, 2021

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## **PROFESSIONAL SERVICE**

Assistant Editor, *Stress Biology* | Jul 2023 – Dec 2025

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## **RESEARCH INTERESTS**

Plant stress responses; plant mineral nutrition; signal transduction; integrative multi-omics analysis.

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## **TECHNICAL SKILLS**

**Cell biology:** Confocal microscopy, Bimolecular fluorescence complementation (BiFC) assays.

**Molecular biology:** Real-time PCR, gel electrophoresis, Western blot analysis, EMSA, ChIP, Mutagenesis, Reporter assays (LUC), Immunoprecipitation, Molecular cloning, <sup>32</sup>P labeling of protein phosphorylation analysis, CRISPR-based gene editing.

**Plant biology:** Transgenic line generation and screening (Arabidopsis and wheat), Hybridization (Arabidopsis), Element content analysis.

**Bioinformatics:** R (proficient), Python (familiar), Multi-sequence alignment and conservation analysis, RNA-seq analysis, ChIP-seq analysis, Proteomic data analysis, alternative splicing analysis, AlphaFold structure prediction and visualization.