ZIHAO WANG

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EDUCATION

Henan University of Technology | Zhengzhou, China **Sep 2022 - Present**

BSc in Biotechnology | Weighted average: 88.6/100 | Rank: 10/125

Selected coursework: Cell Biology, Molecular Biology, Genetics, Cell Engineering, Fermentation Engineering, and Microbiology; laboratory coursework and experiments consistently scored 95-99/100.

PUBLICATIONS

[1] Ni, Z., Bi, Y., **Wang, Z.**, Han, Y., Bi, Y., Zhang, L., & Sun, S. (2025). Divergent Conversion Efficiencies of *Mycobacterium* sp. 191574 for Various Phytosterols and Their Underlying Mechanisms. Biomolecules, 15(11), 1496.https://doi.org/10.3390/biom15111496

[2] Cai M, Ni Z, Sun Z, Li X, **Wang Z**, et al. Research Progress Based on SpyTag/SpyCatcher Self-Assembling Peptides and Their Applications in the Food Field. Food Bioengineering. 2025;4(3):279-291.https://doi.org/10.1002/fbe2.70023

[3] Ni Z, Nie A, Imran M, Sun Z, Zhang B, **Wang Z**, et al. Dietary fermented Artemisia argyi enhances growth performance, hepatic antioxidant activity, and intestinal health in Hongyu roosters. Poultry Science. 2025;104(12):105900-105900. https://doi.org/10.1016/j.psj.2025.105900

[4] Yi Y, Liu R, Shang Z, Wang K, Zhang C, **Wang Z**, et al. Peppermint Essential Oil For Controlling Aspergillus flavus and Analysis of its Antifungal Action Mode. Current Microbiology. 2025;82(4).https://doi.org/10.1007/s00284-025-04116-1

RESEARCH EXPERIENCES

Westlake University | Hangzhou, China - *Visiting Student* **Nov 2025 - Present**

The Role of Cell Death in Bacterial Infection - *Supervisor: Dr. Liang Tao*

- Performed PDCL gene knockout and complementation using CRISPR-Cas9; validated phenotypes through functional assays and statistical analysis, identifying PDCL as a modulator of toxin-induced responses.
- Investigated toxin-induced cellular signaling pathways involving NADPH, NADP, and ROS.

Henan University of Technology | Zhengzhou, China **May 2024 - Oct 2025**

Natural Product Fermentation and Enzymatic Treatment Research - *Supervisor: Dr. Zifu Ni*

- Designed and led Artemisia argyi fermentation experiments; quantified polysaccharides, polyphenols, proteins, and free amino acids over a 72-hour period to establish a dynamic monitoring workflow.
- Built and optimized tobacco enzymatic treatment systems by systematically evaluating temperature, pH, and enzyme concentration.

Henan University of Technology | Zhengzhou, China **Nov 2022 - May 2024**

Microbial Screening and Molecular Cloning Research - *Supervisors: Dr. Zifu Ni and Yanjie Yi*

- Collected soil samples from multiple regions in China, and carried out microbial isolation, purification, and functional screening using standard aseptic and strain-preservation procedures.
- Applied core molecular and cellular biology techniques, including PCR, qPCR, plasmid DNA/RNA extraction, plasmid construction with pET-28a, site-directed mutagenesis, sequence alignment, protein purification, and SDS-PAGE verification.

HONORS AND AWARDS

Excellent Student Scholarship **Nov 2025**

Endeavour Scholarship **Nov 2024**

Silver Award, 2025 International Undergraduate Biomolecular Design Competition (Team Leader) **Oct 2025**

First Prize, National College Students' Data Statistics and Analysis Competition (Individual) **Jun 2025**

Second Prize, 4th Henan Provincial University Student Microbiology Experiment Design Competition (Team Leader) **Jul 2024**

Second Prize, 4th Henan Provincial Microbial Culture Dish Design Competition (Team Leader) **Jul 2024**

SKILLS

Molecular Biology: PCR, qPCR, DNA/RNA extraction, Co-IP, plasmid construction, gene cloning and transformation, site-directed mutagenesis, protein expression and purification, SDS-PAGE, yeast electroporation, and sequence alignment.

Cell Culture Techniques: Mammalian cell culture with experience in HeLa cells, including routine maintenance, passaging, cell seeding, and sterile cell handling

Biochemical and Fermentation Analysis: enzymatic optimization across temperature, pH, and enzyme concentration; dynamic monitoring of polysaccharides, polyphenols, proteins, amino acids; and analysis of NADPH/NADP/ROS-related signaling pathways.

Languages: Mandarin (native), English.(IELTS 5.5)