

EDUCATION

Zhejiang University of Technology (ZJUT)

Microbiology, Master of Science, Sep 2022 - Jun 2025

- Lab Leader: Prof. Yuguo Zheng; Direct Supervisor: Asst. Prof. Junping Zhou.
- Average Score: 91.56/100. Ranking: < 0.5%.
- Core Courses: Microbial Physiology and Metabolic Regulation (96/100), Molecular Biology and Gene Engineering (94/100).

Zhejiang Normal University (ZJNU)

Biological Science, Bachelor of Science, Sep 2018 - Jun 2022

- Average Score: 88.00/100.
- Core Courses: Molecular Biology (95/100), Genetics (93/100), Cell Biology (92/100), Advanced Mathematics (95/100).

PUBLICATIONS

[Note: In our lab, the supervisor is customarily listed as the first author for all publications by master's students.]

Cell factories for biosynthesis of D-glucaric acid (GA): a fusion of static and dynamic strategies [Link][PDF] (IF: 4.00)

Junping Zhou (supervisor), **Yinan Xue**, et al, Zhiqiang Liu^{*}, Yuguo Zheng. **World Journal of Microbiology & Biotechnology**, 2024

- Content: Summarized the shift from static strategies to dynamic regulations in reprogramming pathways for GA cell factories.
- Role: Structured, generated, and revised the whole manuscript.

Synthetic biology for *Monascus*: From strain breeding to industrial production [Link][PDF]

(IF: 3.20)

Junping Zhou (supervisor), Qilu Pan, **Yinan Xue**, et al, Zhiqiang Liu^{*}, Yuguo Zheng.

Biotechnology Journal, 2024

- Content: Reviewed the application of synthetic biology and fermentation control techniques in the production of *Monascus*.
- Role: Participated in structured, and generated the manuscript.

Metabolic engineering of *Escherichia coli* for production of D-panthenol from 3-aminopropanol and glucose

(IF: 9.30)

Junping Zhou (supervisor), Zheng Zhang, Xinyuan Xin, **Yinan Xue**, et al, Zhiqiang Liu^{*}, Yuguo Zheng. **Green Chemistry**, Accepted

- Content: Achieved *de novo* D-panthenol biosynthesis, yielding 13.2 g/L in a 5 L bioreactor, enabling sustainable production.
- Role: Participated in experiments, provided suggestions, and reviewed the manuscript.

Alleviating substrate inhibition of leucine dehydrogenase (LeuDH) by enhancing NADH dissociation efficiency

Junping Zhou (supervisor), **Yinan Xue**, et al, Zhiqiang Liu^{*}, Yuguo Zheng.

- Status: Ready to submit to **Biotechnology and Bioengineering**.
- Content: Relieved substrate inhibition of LeuDH by accelerating the breakdown of the substrate-NADH-enzyme complex.
- Role: Participated in experiments, performed data analysis, structured, generated, and revised the whole manuscript.

Efficient multi-enzyme system constructions for icaritin production from naringenin and prenol utilization in *Escherichia coli*

Anyi Wu, Junping Zhou (supervisor), **Yinan Xue**, et al, Zhiqiang Liu^{*}, Yuguo Zheng.

- Status: Under review at **Journal of Agricultural and Food Chemistry**.
- Content: Developed a novel multi-enzyme system in *Escherichia coli* for the first-time production of icaritin.
- Role: Contributed to data analysis, and drafting of the manuscript.

Efficient L-arginine(L-Arg) production in *Escherichia coli* through multiple strategies

Xin Gao, Junping Zhou (supervisor), **Yinan Xue**, et al, Zhiqiang Liu^{*}, Yuguo Zheng.

- Status: Ready to submit to **Journal of Agricultural and Food Chemistry**.
- Content: Obtained an efficient L-Arg-producing *E. coli* via donor transport, flux optimization, and energy conservation.
- Role: Contributed to experiment, data analysis, and drafting of the manuscript.

Other publications

- Artificial intelligence-assisted bioinformatics, microneedle, and diabetic wound healing: a “new deal” of an old drug, **ACS Applied Materials & Interfaces**, 2022 (IF: 8.30, cover paper, **9th author**, participated in cell experiments) [Link][PDF]

RESEARCH EXPERIENCES

Constructing a highly efficient <i>Escherichia coli</i> cell factory producing L-2-aminobutyric acid (L-2-ABA) <i>Part of master's thesis</i>	Nov 2023 - Present
<ul style="list-style-type: none">Designed an efficient multi-enzymatic module for L-2-ABA production and integrated it into an L-threonine-producing strain.Redirected and rebalanced the metabolic flux of the chassis strain to maximize the production of L-2-ABA.	
Expanding metabolism for biosynthesis of non-canonical amino acids derived from L-threonine (TncAAs) <i>Part of master's thesis</i>	Apr 2023 - Nov 2023
<ul style="list-style-type: none">Integrated a carbon chain elongation module into an L-2-ABA-producing strain.Achieved production of 1.6 g/L L-norleucine (one of the TncAAs) after a 48 h shake flask.	
Rational modification of leucine dehydrogenase (leuDh) from <i>Thermoactinomyces. intermedius</i> <i>Complete with other students, ready for submission</i>	Apr 2023 - Nov 2023
<ul style="list-style-type: none">Rationally design mutation sites around the NADH binding site.Attained two leuDh mutants with enhanced catalytic activity by accelerating the dissociation rate of the NAD(H).	

INTERNSHIP EXPERIENCE

Zhejiang University <i>Internship student, Micro/Nano Manipulation and Biomedical Robotics Laboratory</i>	Jan 2022 - Mar 2022
<ul style="list-style-type: none">Participated in laboratory project about diabetic wound healing, surveyed the thesis about dental robotics.	

HONORS AND AWARDS

China National Scholarship (< 4%)	2024
ZJUT Academic Innovation Scholarship (< 3%)	2024
ZJUT First Prize Scholarship	2023, 2024
Outstanding Postgraduate, ZJUT (< 3%)	2023
Outstanding Graduate, College of Life Sciences, ZJNU	2022
China National Life Science Innovation and Entrepreneurship Competition, Second Prize	2020
Zhejiang Provincial Life Science Competition, Third Prize	2020

SKILLS

Wet Lab Skills: Molecular cloning, CRISPR-Cas9 editing, Enzyme purification & modification, Fermentation, HPLC maintenance, etc.

Software Skills: AutoDock, Pymol, ChimeraX, Snapgene, Primer Premier, Chemdraw, Illustrator, Origin, SPSS, Zotero, Latex, etc.

English Proficiency: IELTS (6.5), CET-6 (548).