

## 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<sup>\*</sup>, 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<sup>\*</sup>, 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** [Link][PDF] (IF: 9.30)  
Junping Zhou (supervisor), Zheng Zhang, Xinyuan Xin, **Yinan Xue**, et al, Zhiqiang Liu<sup>\*</sup>, 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<sup>\*</sup>, Yuguo Zheng.

- Status: Ready to submit to **Biotechnology Journal**.
- 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<sup>\*</sup>, Yuguo Zheng.

- Status: Ready to submit to **Bioresource Technology**.
- 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<sup>\*</sup>, 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

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

INTERNSHIP EXPERIENCE

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

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

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).