WEIYI YANG

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EDUCATION

Huazhong University of Science and Technology (HUST) **Hubei, China**
Master of Biological Sciences - Biophysics GPA 3.87/5 Sep 2022 - Jun 2024
China University of Geosciences (CUG) **Hubei, China**
Bachelor of Biological Sciences GPA 3.67/5 (Top 9%) Sep 2018 - Jun 2022

PUBLICATION *(* indicates corresponding author)*

- Liyuan Ma*, **Weiyi Yang**, Shanshan Huang, Rui Liu, Huiying Li, Xinping Huang, Junming Xiong, Xueduan Liu*. Integrative assessments on molecular taxonomy of *Acidiferrobacter thiooxydans* ZJ and its environmental adaptation based on mobile genetic elements [J]. *Frontiers in Microbiology*, 2022, 13: 826829. doi: 10.3389/fmicb.2022.826829.
- Shanshan Huang, Xueduan Liu, **Weiyi Yang**, Liyuan Ma*, Huiying Li, Rui Liu, Jingxuan Qiu, Yiran Li. Insights into adaptive mechanisms of extreme acidophiles based on quorum sensing/quenching-related proteins [J]. *mSystems*, 2022, 7(2), e01491-21. doi: 10.1128/msystems.01491-21.

CONFERENCE

Abstract | The 7th China *C. elegans* Conference Oct 2024
Oral presentation / student guest speaker | The Yangtze River Worm Online Series Forum May 2024
Assisted in organizing | The 6th Member Representative Conference of the Biophysical Jun 2023
Abstract / Poster | The 7th Youth Scholars Forum on Ion Channels and Receptors Jun 2023

RESEARCH EXPERIENCE *(Please find details on my website.)*

College of Life Science and Technology, HUST **Hubei, China**
Independent study, Professor Jianke Gong's group 2022-Present

- Employed genetic and molecular biology techniques, behavioral assays, and calcium imaging to uncover the thermosensory role of LITE-1 in *Caenorhabditis elegans*. *lite-1* deletion mutants exhibited significantly altered calcium responses in ASH, ASI, and AWB neurons to high temperatures, suggesting LITE-1 as a potential high-temperature sensor.
- Overexpression of *lite-1* in these neurons rescued the heat-induced low survival phenotype, while transcriptomic analysis revealed upregulation of MAPK pathway genes and over-phosphorylation of PMK in *lite-1* mutants post-heat shock.
- Fluorescence imaging revealed that *lite-1* mutants remained in a prolonged state of endoplasmic reticulum stress and were unable to further activate this response after heat shock.

School of Environmental Studies, CUG **Hubei, China**
Independent study, Professor Liyuan Ma's group 2019-2022

- Conducted prophage analysis of 94 *Acidithiobacillus* strains using Prophage Hunter, predicting the number and characteristics of prophages within their genomes.
- Analyzed genomic features (fragment length, number, and GC content), and integrated OrthoANI clustering and phylogenetic taxonomy to investigate the impact of prophages on host genome evolution and

environmental adaptation.

- Annotated functional genes of prophage fragments and assessed the effects of prophage integration on *Acidithiobacillus* genomic evolution.

HONORS and AWARDS

Excellent Postgraduate Cadre, HUST — Dec 2023
Outstanding Student, CUG — Dec 2020
Excellent interns, Zigui field ecology practice, CUG — Oct 2020
Excellent Undergraduate Cadre, CUG — Dec 2020
Team Leader: First Prize, China Undergraduate Life Sciences Contest (National level) — Aug 2022
Team Leader: College Students' Innovation and Entrepreneurship Project (Provincial level) — Apr 2021

TRAINING and CERTIFICATION

Poster | The 6th IEEE EMBS International Summer School of Neural Engineering — **Shanghai, China**
ShangHai Jiao Tong University — Aug 2024
Poster | BioBit Computational Biology Summer School / "Research Star" award — **Hangzhou, China**
ZheJiang Lab — Aug 2023
Special Equipment Safety Operators' Qualification — Nov 2023
Junior Red Cross First Aid Qualification — Jul 2023

RELATED PROFESSIONAL SKILL

Computer skills: Python, R, SPSS, Fiji (ImageJ2), Snapgene, GraphPad, Origin, Adobe Illustrator, WormLab
Laboratory skills: Calcium imaging, Molecular biology, Behavioral assays, Lifespan assay, qRT-PCR, Western blots, RNA interference, mRNA-seq, Confocal imaging and fluorescence quantification
Languages: English (CET-6 535), French (400+ days of self-study on Duolingo)

COURSEWORK

Biophysics: Advanced neurobiology, Genetics, Animal physiology, Biochemistry, Molecular biology, Microbiology, Psychological stress and coping… …
Mathematical background: Advanced mathematics, Linear algebra, C programming language, Python programming language, R language and biostatistics, Multi-omics and big data processing, Bioinformatics… …

EXTRA-CURRICULAR ACTIVITY

Volunteer Educator, Youth Winter Olympics Support Program
Communist Youth League of the Central Committee (Online) — Jan 2022 - Mar 2022
Director of Science and Technology Department
University Student Science and Technology Association, CUG — Sep 2019 - Jun 2020

FUTURE RESEARCH INTEREST

- Neural activity decoding for brain regulation mechanisms
- Cognitive functions and neurological disorders
- BMIs