

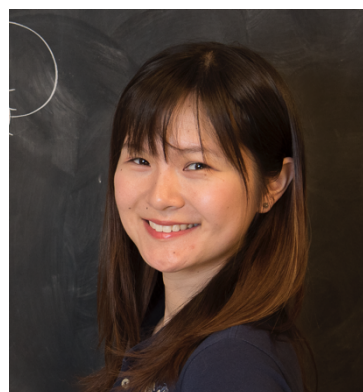
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## Asia 3 Roundtable on Nucleic Acids 2024

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2024- Present Associate Professor, Wuhan University  
2022-2024 Postdoctoral Researcher, Zhongnan Hospital of Wuhan University, China  
2021 PhD University of Illinois at Urbana-Champaign, USA  
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#### Research Interests:

Microbial Physiology, Oxidative Stress, Nucleic Acid Modifications, Microscopy

#### Recent Publications:

1. **Zhou, Y.**, Imlay, JA\*. (2022) *Escherichia coli* uses a dedicated importer and desulfidase to ferment cysteine. *mBio*. e02965-21. doi: 10.1128/mbio.02965-21.
2. **Zhou, Y.**, Imlay, JA\*. (2020) *Escherichia coli* K-12 lacks a high-affinity assimilatory cysteine importer. *mBio*. 11(3): e01073-20. doi: 10.1128/mBio.01073-20.
3. **Zhou, Y.**, Liao, H., Pei, L., Pu, Y\*. (2023) Combatting persister cells: The daunting task in post-antibiotics era. *Cell Insight*. 2023, 2, 100104.
4. Xie, Y., **Zhou, Y.\***, Liu, S., Zhang, XL\*. (2020) PE\_PGRS: vital proteins in promoting mycobacterial survival and modulating host immunity and metabolism. *Cellular Microbiology*. e13290. doi: 10.1111/cmi.13290.
5. Qu, Z. <sup>+</sup>, Zhou, J. <sup>+</sup>, **Zhou, Y.**, Xie, Y., Jiang, Y., Wu, J., Luo, Z., Liu, G., Yin, Lei., Zhang, XL\*. (2020) Mycobacterial EST12 activates a RACK1–NLRP3–asdermin D pyroptosis–IL-1 $\beta$  immune pathway. *Science Advances*. 6(43): eaba4733. doi: 10.1126/sciadv. aba4733. (<sup>+</sup> denotes equal contribution)
6. Sen, A., **Zhou, Y.**, Imlay, JA\*. (2020) During oxidative stress the Clp proteins of *Escherichia coli* ensure that iron pools remain sufficient to reactivate oxidized metalloenzymes. *Journal of Bacteriology*. doi: 10.1128/JB.00235-20.

# The roles of nucleic acid modifications in bacteria

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## Abstract

Nucleic acids carry diverse modifications and employ these chemical marks to exert critical influences on a variety of cellular processes in both eukaryotic and prokaryotic organisms, although the latter has been less studied. Our lab aims to identify RNA modifications and investigate their potential roles in bacteria, such as modulating antibiotic resistance, adapting to oxic and anoxic environment, and contributing to bacterial virulence. Unravel the roles of specific RNA modifications in bacteria could provide insights into the regulation of human-bacterial physiology and inform drug development.

1. **Zhou, Y.**, Liao, H., Pei, L., Pu, Y\*. (2023) Combatting persister cells: The daunting task in post-antibiotics era. *Cell Insight*. 2023, 2, 100104.