

Stanford



Zhiwei Zhou

Postdoctoral Scholar, Pathology

 Curriculum Vitae available Online

Bio

INSTITUTE AFFILIATIONS

- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Medicine Children's Health Center for IBD and Celiac Disease

HONORS AND AWARDS

- Basic Research Award, 2025 Stanford Pathology Research Retreat (10/24/2025)
- Postdoctoral and Early Career Support Award, Stanford Medicine Children's Health Center for IBD and Celiac Disease (12/10/2024)
- Basic Research Award, 2024 Stanford Pathology Research Retreat (10/11/2024)
- Dean's Postdoctoral Fellowship, School of Medicine, Stanford University (01/01/2024)
- Basic Research Award, 2023 Stanford Pathology Research Retreat (11/03/2023)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Early-Career Member, Metabolomics Association of North America (2023 - present)
- Member, Chinese American Society of Mass Spectrometry (2023 - present)
- Member, American Society of Mass Spectrometry (2018 - present)

PROFESSIONAL EDUCATION

- Doctor of Philosophy, Shanghai Instit Of Organic Chemistry (2021)
- Bachelor of Science, Unlisted School (2015)
- Doctor of Philosophy, Interdisciplinary Research Center of Biology and Chemistry, Shanghai Institute Of Organic Chemistry, Chinese Academy of Sciences , Metabolomics, Bioinformatics, Mass Spectrometry (2021)

STANFORD ADVISORS

- Dylan Dodd, Postdoctoral Faculty Sponsor

LINKS

- Personal Web: <https://www.zhouzw.com/>
- Lab Web: <https://www.doddlab.org/>

Publications

PUBLICATIONS

- **Indole-3-acetic acid production is rare among gut bacteria and reflects OFOR-driven amino acid oxidation in acetogens.** *bioRxiv : the preprint server for biology*
DeFeo, M. E., Liu, Y., Zhou, Z., Higginbottom, S. K., Dodd, D.
2026
- **IsoPairFinder: A tool for biochemical pathway discovery using stable isotope tracing metabolomics.** *bioRxiv : the preprint server for biology*
Zhou, Z., Liu, Y., Wang, M., Dodd, D.
2025
- **Gut bacteria degrade purines via the 2,8-dioxopurine pathway.** *Nature microbiology*
Liu, Y., Zhou, Z., Jarman, J. B., Chen, H., Miranda-Velez, M., Terkeltaub, R., Dodd, D.
2025
- **Charting unknown metabolic reactions by mass spectrometry-resolved stable-isotope tracing metabolomics** *NATURE COMMUNICATIONS*
Gao, Y., Luo, M., Wang, H., Zhou, Z., Yin, Y., Wang, R., Xing, B., Yang, X., Cai, Y., Zhu, Z.
2025; 16 (1): 5059
- **A LARGE-SCALE METABOLOMICS SCREEN TO DEFINE PATHWAYS FOR MICROBIOME-DERIVED SMALL MOLECULES**
Sekiba, K., Hou, B., Chen, H., Liu, Y., Zhou, Z., Crawl-Bey, A., Dodd, D.
LIPPINCOTT WILLIAMS & WILKINS.2024: S762
- **A widely distributed gene cluster compensates for uricase loss in hominids.** *Cell*
Liu, Y., Jarman, J. B., Low, Y. S., Augustijn, H. E., Huang, S., Chen, H., DeFeo, M. E., Sekiba, K., Hou, B. H., Meng, X., Weakley, A. M., Cabrera, A. V., Zhou, et al
2023; 186 (16): 3400-3413.e20
- **A mass spectrum-oriented computational method for ion mobility-resolved untargeted metabolomics** *NATURE COMMUNICATIONS*
Luo, M., Yin, Y., Zhou, Z., Zhang, H., Chen, X., Wang, H., Zhu, Z.
2023; 14 (1): 1813
- **Advanced analytical and informatic strategies for metabolite annotation in untargeted metabolomics** *TRAC-TRENDS IN ANALYTICAL CHEMISTRY*
Cai, Y., Zhou, Z., Zhu, Z.
2023; 158
- **Metabolite annotation from knowns to unknowns through knowledge-guided multi-layer metabolic networking.** *Nature communications*
Zhou, Z., Luo, M., Zhang, H., Yin, Y., Cai, Y., Zhu, Z.
2022; 13 (1): 6656
- **Global stable-isotope tracing metabolomics reveals system-wide metabolic alternations in aging Drosophila** *NATURE COMMUNICATIONS*
Wang, R., Yin, Y., Li, J., Wang, H., Lv, W., Gao, Y., Wang, T., Zhong, Y., Zhou, Z., Cai, Y., Su, X., Liu, N., Zhu, et al
2022; 13 (1): 3518
- **Ion mobility collision cross-section atlas for known and unknown metabolite annotation in untargeted metabolomics** *NATURE COMMUNICATIONS*
Zhou, Z., Luo, M., Chen, X., Yin, Y., Xiong, X., Wang, R., Zhu, Z.
2020; 11 (1): 4334
- **A lipidome atlas in MS-DIAL 4** *NATURE BIOTECHNOLOGY*
Tsugawa, H., Ikeda, K., Takahashi, M., Satoh, A., Mori, Y., Uchino, H., Okahashi, N., Yamada, Y., Tada, I., Bonini, P., Higashi, Y., Okazaki, Y., Zhou, et al
2020; 38 (10): 1159-+
- **The emerging role of ion mobility-mass spectrometry in lipidomics to facilitate lipid separation and identification** *TRAC-TRENDS IN ANALYTICAL CHEMISTRY*
Tu, J., Zhou, Z., Li, T., Zhu, Z.

2019; 116: 332-339

- **LipidIMMS Analyzer: integrating multi-dimensional information to support lipid identification in ion mobility-mass spectrometry based lipidomics** *BIOINFORMATICS*
Zhou, Z., Shen, X., Chen, X., Tu, J., Xiong, X., Zhu, Z.
2019; 35 (4): 698–700
- **Advancing the large-scale CCS database for metabolomics and lipidomics at the machine-learning era** *CURRENT OPINION IN CHEMICAL BIOLOGY*
Zhou, Z., Tu, J., Zhu, Z.
2018; 42: 34-41
- **LipidCCS: Prediction of Collision Cross-Section Values for Lipids with High Precision To Support Ion Mobility-Mass Spectrometry-Based Lipidomics** *ANALYTICAL CHEMISTRY*
Zhou, Z., Tu, J., Xiong, X., Shen, X., Zhu, Z.
2017; 89 (17): 9559–66
- **MetCCS predictor: a web server for predicting collision cross-section values of metabolites in ion mobility-mass spectrometry based metabolomics** *BIOINFORMATICS*
Zhou, Z., Xiong, X., Zhu, Z.
2017; 33 (14): 2235-2237
- **Large-Scale Prediction of Collision Cross-Section Values for Metabolites in Ion Mobility-Mass Spectrometry** *ANALYTICAL CHEMISTRY*
Zhou, Z., Shen, X., Tu, J., Zhu, Z.
2016; 88 (22): 11084–91