Stanford

Xianfeng Zeng

Postdoctoral Scholar, Bioengineering

Bio

BIO

Ph.D. in Chemistry, Princeton University (2023)

B.Sc. in Chemistry, Tsinghua University (2017)

HONORS AND AWARDS

- Postdoctoral fellowship, Damon Runyon Cancer Research Foundation (2024)

STANFORD ADVISORS

- Michael Fischbach, Postdoctoral Faculty Sponsor

Publications

PUBLICATIONS

- **A single-strain dropout screen reveals mechanistic links between microbial ecology and metabolism.** *bioRxiv : the preprint server for biology*
  Zeng, X., Meng, X., Weakley, A. M., Higginbottom, S., Lopez, E. M., Cabrera, A. V., Gray, I. J., DeFelice, B. C., Terasaki, M., Zhao, A., Hall, K. R., Levia, M., Arreola, et al
  2026

- **Ecology and engineering to modify the bile acid output of a defined microbial community.** *bioRxiv : the preprint server for biology*
  Zeng, X., Meng, X., Weakley, A. M., Jarrett, K. E., Higginbottom, S., Lopez, E. M., Cabrera, A. V., Gray, I. J., DeFelice, B. C., Terasaki, M., Lai, R., Brearley-Sholto, M., Zhao, et al
  2026

- **Gut bacterial nutrient preferences quantified in vivo** *CELL*
  Zeng, X., Xing, X., Gupta, M., Keber, F. C., Lopez, J. G., Lee, Y. J., Roichman, A., Wang, L., Neinast, M. D., Donia, M. S., Wuhr, M., Jang, C., Rabinowitz, et al
  2022; 185 (18): 3441-+

- **Aged mice exhibit widespread metabolic changes but preserved major fluxes** *CELL METABOLISM*
  Jankowski, C. S. R., Samarah, L. Z., MacArthur, M. R., Mitchell, S. J., Weilandt, D. R., Hunter, C. J., Zeng, X., McReynolds, M. R., Rabinowitz, J. D.
  2025; 37 (11): 2280-2294.e4

- **Microbiome metabolism of dietary phytochemicals controls the anticancer activity of PI3K inhibitors.** *Cell*
  Roichman, A., Zuo, Q., Hwang, S., Lu, W., Cordova, R. A., MacArthur, M. R., Boyer, J. A., Mitchell, S. J., Powers, J., Koval, S. A., Hunter, C. J., Rijmers, J., Ryseck, et al
  2025; 188 (11): 3065-3080.e21

- **A gut pathobiont regulates circulating glycine and host metabolism in a twin study comparing vegan and omnivorous diets.** *medRxiv : the preprint server for health sciences*
  Carter, M. M., Zeng, X., Ward, C. P., Landry, M., Perelman, D., Hennings, T., Meng, X., Weakley, A. M., Cabrera, A. V., Robinson, J. L., Nguyen, T., Higginbottom, S., Maecker, et al
  2025

- **PTER is a N-acetyltaurine hydrolase that regulates feeding and obesity.** *Nature*

Wei, W., Lyu, X., Markhard, A. L., Fu, S., Mardjuki, R. E., Cavanagh, P. E., Zeng, X., Rajniak, J., Lu, N., Xiao, S., Zhao, M., Moya-Garzon, M. D., Truong, et al
2024

- **Comprehensive quantification of metabolic flux during acute cold stress in mice.** *Cell metabolism*
  Bornstein, M. R., Neinast, M. D., Zeng, X., Chu, Q., Axsom, J., Thorsheim, C., Li, K., Blair, M. C., Rabinowitz, J. D., Arany, Z.
  2023; 35 (11): 2077-2092.e6

- **NAD precursors cycle between host tissues and the gut microbiome** *CELL METABOLISM*
  Chellappa, K., McReynolds, M. R., Lu, W., Zeng, X., Makarov, M., Hayat, F., Mukherjee, S., Bhat, Y. R., Lingala, S. R., Shima, R. T., Descamps, H. C., Cox, T., Ji, et al
  2022; 34 (12): 1947-+

- **Ketogenic diet and chemotherapy combine to disrupt pancreatic cancer metabolism and growth** *MED*
  Yang, L., TeSlaa, T., Ng, S., Nofal, M., Wang, L., Lan, T., Zeng, X., Cowan, A., McBride, M., Lu, W., Davidson, S., Liang, G., Oh, et al
  2022; 3 (2): 119-+

- **Spatially resolved isotope tracing reveals tissue metabolic activity** *NATURE METHODS*
  Wang, L., Xing, X., Zengl, X., Jackson, S., TeSlaa, T., Al-Dalahmah, O., Samarah, L. Z., Goodwin, K., Yang, L., McReynolds, M. R., Li, X., Wolff, J. J., Rabinowitz, et al
  2022; 19 (2): 223-+

- **Circulating metabolite homeostasis achieved through mass action** *NATURE METABOLISM*
  Li, X., Hui, S., Mirek, E. T., Jonsson, W. O., Anthony, T. G., Lee, W., Zeng, X., Jang, C., Rabinowitz, J. D.
  2022; 4 (1): 141-+

- **Serine catabolism generates liver NADPH and supports hepatic lipogenesis** *NATURE METABOLISM*
  Zhang, Z., TeSlaa, T., Xu, X., Zeng, X., Yang, L., Xing, G., Tesz, G. J., Clasquin, M. F., Rabinowitz, J. D.
  2021; 3 (12): 1608-+

- **Metabolite discovery through global annotation of untargeted metabolomics data** *NATURE METHODS*
  Chen, L., Lu, W., Wang, L., Xing, X., Chen, Z., Teng, X., Zeng, X., Muscarella, A. D., Shen, Y., Cowan, A., McReynolds, M. R., Kennedy, B. J., Lato, et al
  2021; 18 (11): 1377-+

- **Quantitative Fluxomics of Circulating Metabolites** *CELL METABOLISM*
  Hui, S., Cowan, A. J., Zeng, X., Yang, L., TeSlaa, T., Li, X., Bartman, C., Zhang, Z., Jang, C., Wang, L., Lu, W., Rojas, J., Baur, et al
  2020; 32 (4): 676-+

- **The small intestine shields the liver from fructose-induced steatosis** *NATURE METABOLISM*
  Jang, C., Wada, S., Yang, S., Gosis, B., Zeng, X., Zhang, Z., Shen, Y., Lee, G., Arany, Z., Rabinowitz, J. D.
  2020; 2 (7): 586-+

- **Dietary fructose feeds hepatic lipogenesis via microbiota-derived acetate** *NATURE*
  Zhao, S., Jang, C., Liu, J., Uehara, K., Gilbert, M., Izzo, L., Zeng, X., Trefely, S., Fernandez, S., Carrer, A., Miller, K. D., Schug, Z. T., Snyder, et al
  2020; 579 (7800): 586-+

- **Metabolite Exchange between Mammalian Organs Quantified in Pigs** *CELL METABOLISM*
  Jang, C., Hui, S., Zeng, X., Cowan, A. J., Wang, L., Chen, L., Morscher, R. J., Reyes, J., Frezza, C., Hwang, H., Imai, A., Saito, Y., Okamoto, et al
  2019; 30 (3): 594-+

- **Extracellular vesicles derived from ODN-stimulated macrophages transfer and activate Cdc42 in recipient cells and thereby increase cellular permissiveness to EV uptake** *SCIENCE ADVANCES*
  Zhang, Y., Jin, X., Liang, J., Guo, Y., Sun, G., Zeng, X., Yin, H.
  2019; 5 (7): eaav1564

- **Small Molecule and Peptide Recognition of Protein Transmembrane Domains** *BIOCHEMISTRY*
  Zeng, X., Wu, P., Yao, C., Liang, J., Zhang, S., Yin, H.
  2017; 56 (15): 2076-2085

- **Pyrimidine Triazole Thioether Derivatives as Toll-Like Receptor5 (TLR5)/Flagellin Complex Inhibitors** *CHEMMEDCHEM*

Yan, L., Liang, J., Yao, C., Wu, P., Zeng, X., Cheng, K., Yin, H.
2016; 11 (8): 822-826