

Stanford



Conor McClune

Postdoctoral Scholar, Chemical Engineering

Bio

BIO

I develop systematic approaches for studying the plasticity of life at the molecular level, especially the bioactive compounds in plants we consume as food or medicine.

HONORS AND AWARDS

- Damon Runyon Fellowship, Damon Runyon Cancer Research Foundation (11/2020-2/2024)
- K99/R00 Pathway to Independence Award, NIH (2/2024-2/2026)

PROFESSIONAL EDUCATION

- BA, University of California, Berkeley , Biochemistry & Molecular Biology (Minor: Bioengineering) (2012)
- PhD, Massachusetts Institute of Technology , Biology (Computational and Systems) (2019)

STANFORD ADVISORS

- Elizabeth Sattely, Postdoctoral Faculty Sponsor
- Elizabeth Sattely, Postdoctoral Research Mentor

Publications

PUBLICATIONS

- **Discovery of FoTO1 and Taxol genes enables biosynthesis of baccatin III.** *Nature*
McClune, C. J., Liu, J. C., Wick, C., De La Peña, R., Lange, B. M., Fordyce, P. M., Sattely, E. S.
2025
- **Multiplexed perturbation of yew reveals cryptic proteins that enable a total biosynthesis of baccatin III and Taxol precursors.** *bioRxiv : the preprint server for biology*
McClune, C. J., Liu, J. C., Wick, C., De La Peña, R., Lange, B. M., Fordyce, P. M., Sattely, E. S.
2024
- **Alleviating Cell Lysate-Induced Inhibition to Enable RT-PCR from Single Cells in Picoliter-Volume Double Emulsion Droplets** *ANALYTICAL CHEMISTRY*
Khariton, M., McClune, C. J., Brower, K. K., Klemm, S., Sattely, E. S., Fordyce, P. M., Wang, B.
2023; 95 (2): 935-945
- **Alleviating Cell Lysate-Induced Inhibition to Enable RT-PCR from Single Cells in Picoliter-Volume Double Emulsion Droplets.** *Analytical chemistry*
Khariton, M., McClune, C. J., Brower, K. K., Klemm, S., Sattely, E. S., Fordyce, P. M., Wang, B.
2023

- **Constraints on the expansion of paralogous protein families.** *Current biology : CB*
McClune, C. J., Laub, M. T.
2020; 30 (10): R460–R464
- **Engineering orthogonal signalling pathways reveals the sparse occupancy of sequence space.** *Nature*
McClune, C. J., Alvarez-Buylla, A., Voigt, C. A., Laub, M. T.
2019; 574 (7780): 702-706
- **Permanent genetic memory with >1-byte capacity.** *Nature methods*
Yang, L., Nielsen, A. A., Fernandez-Rodriguez, J., McClune, C. J., Laub, M. T., Lu, T. K., Voigt, C. A.
2014; 11 (12): 1261-6