William Sharpless

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EDUCATION

UC Berkeley, Berkeley, California — *In Progress, GPA: 3.53*

August 2016 to Dec 2020

BA in Applied Mathematics, BS in Microbiology

Relevant courses: Nonlinear Systems, Predictive/Optimal Control, Biochemistry, Synthetic Biology

EXPERIENCE

Arkin Lab, UC Berkeley — *Research Assistant*

Jan 2019 - Current

Worked on Rhizosphere community design for enhancing rice growth through dynamic modeling and control, ML-based identification of motifs, optimal parameterization of gLV systems, senior thesis on community dynamics variance with respect to environment

Senti Biosciences, South San Francisco — *Intern*

May 2019 - Aug 2019

Worked on the Gene Circuit Team, engineering and modeling miRNA and CART circuits for cancer immunotherapies

Independent research with UC Big Ideas, UC Berkeley

Dec 2018 - Current

Awarded $7k, winning the UC Big Ideas competition and SPUR and Regents funding, for an independent research project on directed evolution of polyethylene-degrading enzyme with another student under the mentorship of Prof Steve Lindow

Keasling Lab, Emeryville, CA — *Research Assistant*

Jan 2018 - May 2019

Worked to augment *Pseudomonas putida* as a chassis for production in line with the institution's mission to better biomanufacturing, clean energy, and bioremediation. Awarded the *Synthetic Biology and Metabolic Engineering* undergraduate research fellowship in the summer of 2018 to interrogate isoprenoid metabolism

Kelly Lab, North Carolina State University, Raleigh, NC — *Research Assistant*

May 2017 - July 2017

Worked with the thermophilic *Caldicellulosiruptor bescii* for industrial applications of engineered cellulose degradation with multi-domain CAZymes

UNC Health Care, Lilongwe, Malawi — *Nursing Assistant*

January 2016 - March 2016

Did a variety of tasks from patient blood collection to rural office data entry for the Kamuzu Central Hospital in Lilongwe, sponsored by the UNC project in Malawi

Publications (coauthor on all)

A rapid methods development workflow for high-throughput quantitative proteomic applications. PloS one. Feb 2019.
Massively parallel fitness profiling reveals multiple novel enzymes in P. put lysine metabolism. MBio. June 2019.
Omics-driven identification and elimination of valerolactam catabolism in P. put for increased pdt titer. MEc. Dec 2019.
Functional analysis of the fatty acid and alcohol metabolism of P. put using RB-TnSeq. AEM. June 2020.

Organizations

Habitat for Humanity of Cal

December 2016 - Current

TECHNICAL SKILLS: Matlab, Python, Golden Gate & Gibson cloning, HPLC, GC-MS/FID, Tissue Culture, Biomek