

Mark van Zee

Email: mvanzee1996@gmail.com

Education:

University of California, Riverside, (June 2014 - August 2016)

Transferred after Second Year

Dean's List 6 Quarters

University of California, Los Angeles (Expected Graduation June 2018)

Bachelors of Science in Biochemistry

Bachelors of Arts in General Physics

Dean's List 2 Quarters

Work Experience:

California Nanosystems Institute, University of California Los Angeles (August 2016 - Present)

Undergraduate Researcher Under Dino Di Carlo

The laboratory focused on developing inertial microfluidic techniques and devices to analyze single cells. I developed a protocol to encapsulate single cells into droplets using a 3D printed droplet generator and sort the cells using a biosorter to induce directed evolution. The protocol has been applied towards directed evolution of algae for biofuel production.

Department of Bioengineering, University of California Riverside (August 2015 - August 2016)

Undergraduate Researcher Under Julia Lyubovitsky

The laboratory focused on improving the mechanical properties of collagen hydrogels and developing new imaging techniques using Multiphoton Microscopy (MPM). I synthesized collagen hydrogels and collected their mechanical data using a rheometer. I also determined collagen gels absorption spectrum using a spectrophotometer and their structural properties through images from a MPM microscope.

High School Student Research Program, University of California Los Angeles (June 2017- August 2017)

Daily Lab Supervisor

Program has underprivileged students work in cutting-edge research laboratories at UCLA. I mentored two high school students daily for 8 weeks and taught them basic techniques such as using a fluorescence microscope and designing experiments. I also taught them how to perform experiments using my directed evolution protocol.

Independent Umpire Service (January 2015 - Present)

Baseball Umpire

Service assigns umpires to various leagues from ages 6-18. I officiated various Little League and High School games. Oftentimes, I managed players, coaches, and fans on my own.

Kaiser Permanente, Los Angeles (January 2017 - June 2017)

Red Vest Volunteer

I checked in incoming patients, provided directions, and discharged patients.

Publications:

Jackie Gigante, **Mark van Zee**, Navica Adunur, Austin Burdick, Xuye Lang, and Julia G. Lyubovitsky, "Multiphoton microscopy and microstructure within collagen 3D hydrogels: an advanced real-time optical Imaging module," in submission (2015)

Xuye Lang, **Mark van Zee**, Austin Burdick, Anh Vu, and Julia G. Lyubovitsky, "Structural, mechanical, and optical properties of cross-linked collagen hydrogels are affected by the 'age' of genipin solutions," in submission (2015)

Computer Skills:

C++, MATLAB, Mathematica, Python, Solidity

Image J, NIS Elements, Excel, LaTeX

Clubs/Organizations:

UCLA Biomedical Engineering Society (October 2016 - Present)

Bruin Entrepreneurs (October 2017 - Present)

UCLA Undergraduate Investors Society (October 2017 - Present)

Dynamic Genome Outreach (December 2014 - June 2016)