

# Samuel Bennett Penwell

**Graduate Institution:** University of California - Berkeley

**Graduate Discipline:** Physical Chemistry

**Hometown:** Whitewater, WI

**Relevant SC Research:** Basic Energy Sciences



## Research Interest:

I am generally interested in the exploration and development of light harvesting systems, both natural and artificial, as alternatives to fossil fuels. Specifically, I am determined to improve our understanding of light-matter interactions and exciton dynamics in light harvesting systems. As such, my graduate research in the Ginsberg Group is focused on elucidating the basic photophysics of thin film organic semiconductors through the development and implementation of a new spectroscopic technique, which will provide a more direct means of observing the dynamics of excitons with sub-diffraction spatial resolution and ultrafast time resolution. The application of this technique will help address the pressing questions that currently limit the efficiency of artificial light harvesting devices.

## About Me:

I am currently finishing my second year working with Dr. Naomi Ginsberg towards a Ph.D. in physical chemistry at UC Berkeley. Prior to moving to California, I completed my undergraduate degree in chemistry at the University of Wisconsin – Madison, where I worked under Prof. John Wright using multidimensional nonlinear infrared spectroscopy in the mixed frequency/time domain to study deuterated water in reversed micelles. As an undergraduate, I also completed a summer internship at the Lawrence Berkeley National Laboratory through the DOE's SULI program. At LBNL, I worked on the production and characterization of thin film graphene based transparent electrodes under Dr. Yuegang Zhang.

In addition to my research interests, my other professional interest is chemistry

education. My teaching experiences include: faculty assistant for physical chemistry laboratory at UW Madison, graduate student instructor for general chemistry at UC Berkeley, and graduate student instructor for undergraduate quantum mechanics at UC Berkeley. This spring, I will be a graduate student instructor for the graduate kinetics course. My formal teaching experience has been supplemented by tutoring, in both official and unofficial capacities. I find education to highly rewarding and I hope to find a faculty position that will allow me to focus on undergraduate education in addition to my primary research interests.

In my free time I enjoy many outdoor activities in the Bay Area such as, hiking, cycling, and rock climbing. I also like reading, cooking, and generally spending time with friends, usually either outdoors or around the dinner table.



U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Science