

Jessica Sherman



Graduate Institution: University of California-Santa Barbara

Graduate Discipline: Materials Chemistry

Hometown: Lexington, KY

Relevant SC Research: Basic Energy Sciences

Research Interest:

I'm a solid-state chemist, and I've been involved in many aspects of organic electronics. I started by doing synthetic chemistry as an undergrad. My PhD research entails studying the influence of packing and disorder on the electronic properties of organic semiconductors (and, particularly, functionalized pentacenes). I use a variety of analytical techniques, including optical/electron/scanning probe microscopy, x-ray/ultraviolet/visible spectroscopy, and x-ray scattering on thin films as well as single crystals. I've also made and characterized organic electronic devices (solar cells, thin film and single crystal transistors, diodes). Most of my research to date has focused on charge transport, but I hope to have the opportunity to investigate thermal transport in organic materials as well.

Aside from my dissertation projects, I've developed substantial side interests in crystallography, spectroscopic characterization, surface science and inorganic materials.

About Me:

As a first-generation college graduate, I am conscious of the barriers that prevent many K-12 students from pursuing higher education in STEM fields. Consequently, I have been involved in scientific outreach since I was in high school, with

particular emphasis on low-income and underrepresented minority students in public schools. I also organize a Dow Chemical-sponsored lecture series at UCSB for Graduate Students for Diversity in Science.

Teaching and mentoring undergraduate students is the most important and rewarding aspect of my work as a graduate student, so I am considering an academic career. That said, because my current trajectory indicates that more x-ray scattering lies in my future, I hope to forge productive collaborations with colleagues at national laboratory facilities over the next few years.

When I am not in the lab, I enjoy cooking, particularly when I can do so on the beach or over a campfire. I climb, surf and pursue opportunities to pick up skill in various athletic endeavors. I am currently working on developing my Olympic lifting abilities and recently competed in my first powerlifting meet.



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