Rebecca Anne Belisle

Graduate Institution: Stanford University

Graduate Discipline: Materials Science

Hometown: Southbridge, MA

Relevant SC Research: Basic Energy Sciences

Research Interest:

As a nature enthusiast, I am inspired by the world around me to create novel materials for energy and environmental applications. My past research efforts have included the development of robust polymers that are both bioinspired and biodegradable, as well as the investigation of biomimetic ultra-repellent surfaces for a variety self-cleaning, antifouling and antiicing applications. These projects have fostered my interests in the synthesis and application of the many hierarchical structures found in nature.

Going forward, I am very interested in applying bioinspired self assembly to the development of materials from the bottom up. In particular, I hope to apply these principals to the field of organic photovoltaics to both better understand and control the structure-function relationship within OPVS at a molecular level. More broadly, I hope my understanding of bottom-up materials synthesis and hierarchical assembly will prove useful in the development of less expensive and less energy intensive nanofabrication techniques.

About Me:

Since graduating with a B.S. in Engineering from Franklin W. Olin College of Engineering in 2010, I have been pursuing my research interests both in the United States and abroad. In the fall of 2010 I began a Masters of Philosophy in Mechanical Engineering degree program as US-UK Fulbright Scholar at the University of Bath. As a Fulbright Scholar I was able to study the nests of solitary bees in the hopes of developing more environmentally responsible plastics, as well as participate in a variety of community gardening and sustainability efforts. After completing my degree in the fall of 2011 I returned to the US to work as a Wyss Fellow at the Wyss Institute for Biologically Inspired Engineering at Harvard University, developing materials inspired by pitcher plants for a variety of applications. This coming fall I will be continuing my education as a PhD student in materials science at Stanford University.

After completing my PhD I hope to become a professor, educating the next generation of researchers who will solve the many energy and environmental challenges that face us. In the mean time, I have enjoyed participating in a variety of community outreach activities and courses, from science expos to running a materials course at Olin College, to encourage young students to be excited about materials science and the changes it can lead to.

When out of the lab I like to find myself outside - rock climbing, gardening, and beekeeping.