



Brian D. McCarthy

Graduate Institution: University of North Carolina - Chapel Hill

Graduate Discipline: Inorganic Chemistry

Hometown: Hillsboro, OR

Relevant SC Research: Basic Energy Sciences

Research Interest:

My research interests center broadly on the investigation of how light energy may be harvested, transported, and utilized. Past projects have focused on polymeric photovoltaics, photochemical catalysts for the production of hydrogen and halogen gases from mineral acids, and energy transfer in extended lattices. At UNC Chapel Hill I hope to either study energy transfer with transient absorption spectroscopy or the design of bio-inspired catalysts for proton reduction.

About Me:

I was introduced to chemical and energy research at Portland State University (PSU) in Oregon under the supervision of Professor Carl C. Wamser. It was at PSU that my interest in studying the energy problem was cemented.

Following this stint at PSU I had the opportunity to spend a summer at the Oak Ridge National Laboratory under the guidance of Dr. Michael Brady and Dr. Harry Meyer III where I mentored in the use of Auger Electron Spectroscopy to study fuel cell components. During my undergraduate work at the Massachusetts Institute of Technology I worked successively with Professor Daniel Nocera and Professor Mircea Dincă. Beyond research I have been involved with science and engineering outreach, including participation in MIT's High School Summer Program (HSSP) where I co-taught a survey chemistry class designed to expose students to fascinating chemistry not normally taught in high school classes. Prior to beginning graduate work at UNC Chapel Hill I will be continuing work on a chemistry education

project focused on providing tailor digital resources to students taking college-level general chemistry. As I pursue a career as a research scientist I intend to continue devoting time to science and engineering outreach.

Outside of chemistry I enjoy reading, cooking, and spending time outdoors. I greatly enjoy following international news and general science news, particularly news from the space community. My hometown is Hillsboro, Oregon, located twenty minutes outside Portland, Oregon. I spent my childhood living in this fir tree covered valley, and much of my time was spent playing outdoors with my younger brother, who is now a mechanical engineering student. As part of my free time my brother and I spend time constructing things and participating in DIY science.



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