2016 Undergraduate Award for Excellence in Chemistry by a First-Generation Student

Catherine McGeough
Smith College

Katie McGeough is scholastically outstanding and dedicated to her research. During her first year at Smith College, Katie shadowed the older students in Dr. Elizabeth Jaimieson's lab to get a sense of what project she wanted to work on. Ultimately, she decided that she would take on one of the more difficult projects, looking at the formation of DNA base lesions in mouse fibroblast cells treated with chromium. Although Katie truly enjoyed biochemistry research, she discovered a passion for organic chemistry. Katie applied for and was accepted into the highly competitive Research Experience for Undergraduates (REU) summer program at the University of Connecticut. Her REU advisor, Dr. Mark Peczuh, writes that Katie not only prepared and characterized 8-10 analogs of macrocycles, but also did further analysis on the compounds including correlating the physicochemical properties of macrocycles to their respective biological activities. More importantly, the idea and process she established has transformed how to think about characterizing all new compounds in the Peczuh lab, which is functioning at the level of a successful graduate student. Her current research advisor at Smith College, Dr. Kevin Shea, writes that she is fully engaged with the project literature, she finds and runs all of her own reactions, and she runs and analyzes her own spectra. Katie presented her results at the 2015 National Organic Symposium and obtained summer funding as an ACS DOC SURF award winner. Her level of initiative and independence are simply outstanding. This year she has taken on the role of mentoring a junior chemistry major working on her project, and Katie is thriving as a research mentor. Katie has an amazing combination of experience, humility, determination, maturity, and curiosity.