

## 2014 Iota Sigma Pi Undergraduate Award for Excellence in Chemistry

### Brynn Elizabeth Umbach



Midshipman 1/C Brynn Umbach is an outstanding undergraduate chemistry major at the United States Naval Academy in Annapolis, Maryland. Brynn has pursued a challenging academic program and has excelled in every dimension. As a USNA Trident Scholar, she is involved in an ambitious multi-year research project on the development of algal biofuels. Brynn's interests in the lipid content and composition of extremophilic and estuarine microalgae for suitability as biofuel feedstocks come from her deep interest in making a difference in the developing world and identifying new sources of energy toward the goal of global sustainability and security. Brynn writes that, after pursuing graduate education, as a senior leader at the military's Africa Command or working as a civilian, she hopes "to encourage other scientists to increase their contributions to the developing world." Her research advisor, Dr. Charles Sweet describes Brynn in the laboratory setting as "more like a graduate student than an undergraduate, involved not just in conducting her experiments but also in their design, direction, and interpretation. Being her research adviser makes me strive every day to be the best mentor and scientist I can be, and that is the highest praise I can give to a research student." In addition to her laboratory work, Brynn has an impressive overall curriculum vitae. She served as Brigade Sergeant Major, the highest-ranking underclassman at the USNA, responsible for managing the morale, conduct, and accountability of 3500 students, and communications between the Brigade of Midshipmen and the administration. Additionally Brynn completed a study abroad program in Spain and spent six weeks living and working in Uganda with the non-governmental organization "WomenFirst." She has also, through her military appointments, spent time in South Korea and Hong Kong aboard the USS CHUNG HOON (DDG 93), a destroyer in the Pacific Fleet homeported in Pearl Harbor. Brynn heeds a call to serve and aims to put her knowledge of chemistry to work in finding a better future in developing countries. Her advisor, Professor Mark Campbell, reports that, "She has the imagination to envision complex relationships in order to solve difficult problems." Sweet describes her as, "One of a very few people I've met whom I'm certain will make a real difference and have a positive impact, not just to those around her, not just as a naval officer, but in the country and in the world."