

## Successful Women in Chemistry Series—Continued

**Dr. Beth Cooper**  
**By: Kelly George**



As a child, *Beth Cooper* became enthralled with science, “I liked creating things and was fascinated with how things worked and wanting to create new solutions. My early dream of being a scientist continued to grow through high school as I participated in high school science competition.

After these early experiences, I was hooked—I knew I wanted to study polymers in college; the synthesis, the modification, and the performance.” *Beth’s* dream was realized, and she now works at Dow Chemical as an Associate Research Scientist in the Architectural Coatings division, located in Collegetown, PA. In August, Beth was recognized by the ACS Organic Chemistry Division as one of the 2014 Young Investigator Awardees, where she presented her research at Dow. When asked what she enjoys about her current work, Beth answered, “I work with a great multi-disciplinary team of people. Each day brings new successes and new challenges. We are involved with science from brainstorming and concept development through to product commercialization and working on current products. It is exciting to see the fundamental research as well as the product cycle and how each part of the team contributes to the overall product.”

*Beth* attended Carnegie Mellon University, where she majored in Chemistry and graduated with honors. She conducted research with Prof. Krzysztof Matyjaszewski and focused on the synthesis of PEO-SAN-PEO (poly(ethylene oxide)-poly(styrene-co-acrylonitrile)-poly(ethylene oxide)) block copolymers using atom-transfer radical-polymerization (ATRP), examined ATRP kinetics and determined the effect of solvent in reverse and normal initiation in ATRP. Says *Beth*, “I learned strong foun-

dational skills as part of my education at Carnegie Mellon University, not only as new information, but also an approach to problem solving which has enabled me to use my skills in all parts of my life.” She then worked in the labs of Prof. Todd Emrick at the University of Massachusetts – Amherst for her Ph.D in Polymer Science and Engineering. Her doctoral research focused on the synthesis of controlled multi-functional aliphatic polyesters and acrylates, examining the structure-property relationships of water-soluble hydrophilic and zwitterionic polyesters and studying micellization and solubility of cancer drugs using water-soluble polymers.

*Beth’s* career success story is even more impressive, considering significant health challenges and disabilities in her life. *Beth* explains, “My health became a significant challenge during my sophomore year in college, and one that I have had to consider continually along each step of my career. Having health challenges certainly shaped who I am as an adult, and I feel fortunate that I was able to balance my health difficulties with my education and now my career.” *Beth* notes that she has seen positive changes in the work environment, “I am encouraged to see even in the short time since I started, that the ‘work climate’ has become more accepting to women and people with disabilities. While I feel there is room for improvement, we are moving forward; each woman who demonstrates success will continue to change this climate. Initially, I was told a scientist who uses a wheelchair would not be successful. Thankfully, there are examples to the contrary, and people who saw my potential.”

*Dr. Cooper’s* advice to other women chemists: “I have been able to achieve my goal of being a scientist due in part to my own personal determination and my desire to create, problem solve, and lead; my strong coping skills in dealing with multiple health challenges; superb mentors throughout my life who have shared their knowledge, skills, and personal experiences; and the extensive support of family as well as colleagues. My