



DIVISION OF POLYMERIC MATERIALS: SCIENCE & ENGINEERING

Cooperative Research Award in Polymer Science and Engineering

Sponsored by the Eastman Kodak Company

2006 Award Winners

Steven D. Smith

Procter and Gamble Company

Richard J. Spontak

North Carolina State University



The 2006 winners of the Cooperative Research Award in Polymer Science and Engineering presented by the American Chemical Society's (ACS) Division of Polymeric Materials: Science and Engineering (PMSE) are Dr. Steven D. Smith [left], Principal Scientist, Procter and Gamble Company (and Adjunct Professor at both North Carolina State University and the University of Cincinnati), and Dr. Richard J. Spontak [right], Alumni Distinguished Professor in the Departments of Chemical and Biochemical Engineering and Materials Science and Engineering. Prof. David Schiraldi, Chair of the PMSE Cooperative Research Award Committee, announced the award, which is endowed by the Eastman Kodak Company, and has been presented annually since 1992.

The team of Smith and Spontak have collaborated for the past 15 years in the area of block copolymer materials, leading to over 40 scholarly publications in journals including *Science*, *Advanced Materials*, and *Macromolecules*. The idea of incorporating random blocks into copolymers yielded triblock copolymers of the form $A(A/B)B$, which were found to possess unusual rheological properties, and generated bicontinuous sponge-like morphologies. The complex morphologies of these new materials led Smith and Spontak to develop the cutting edge analytical technique known as transmission electron microtomography (TEMT), which yielded unprecedented information, such as curvature/coordination distributions of the materials, information that is not otherwise obtainable. This collaborative effort has consistently maintained a balance between fundamental and applied research, and has addressed issues such as molecular self-organization under non-equilibrium processing conditions, for example. The synergy between academic and industrial participants in this team has provided many fresh insights into complex problems associated with new materials development, while maintaining the highest of scholarly standards.

The scientific breakthroughs of the Smith and Spontak team have led to technological advances which in turn have generated new products in the areas of thermoplastic elastomers, hot-melt adhesives, physical gels, and nanostructured polymeric membranes. Many of these new products have been commercialized by Procter & Gamble.

The award, which includes a \$3,000.00 prize, will be presented at PMSE's awards luncheon and will be recognized by the Symposium "Ordered Block Copolymers: Cooperative Research Award honoring Steven D. Smith and Richard J. Spontak" at the 231st American Chemical Society meeting in Atlanta, Georgia, (March 2006).

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