Biography

Malcolm Prouty received his B.S. in Electrical Engineering in 2003 followed by his Ph.D. in Engineering with a concentration in nanotechnology in 2007 from Louisiana Tech University. During this time, Dr. Prouty was heavily involved in the university's newly formed entrepreneurship program out of which he formed two startup companies. Upon graduation, Dr. Prouty moved to Austin, TX where he gained employment with Systems & Materials Research Corporation (SMRC) as a research engineer. Dr. Prouty is now President of SMRC, overseeing technology development for the aerospace and defense sectors.

Abstract

The World of DoD SBIR and Discussions Around Technology Commercialization.

Malcolm Prouty will discuss his educational background and how he was introduced to the principals of entrepreneurship, his experiences with the Small Business Innovation Research (SBIR) program as they relate to the Department of Defense (DoD), and some high level pointers on technology commercialization. This is meant to be an information discussion with the audience to broaden everyone's understanding of "The World of DoD SBIR."

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Ph.D., Polymer Science, University of Akron, 2005
B.S., Chemistry, Texas State University, 1999

Dr. Rubal performs formulation, synthesis, characterization, and analysis of polymer systems at SwRI. His recent formulation work has included cyclic olefin blends, fire retardant rubbers, antimicrobial thermoplastics, epoxy composites, and drug releasing silicones. Recent synthesis work included photo-free radical graft polymerizations, polyimide condensation polymerizations, monomer synthesis, and anionic ring opening polymerizations. In addition, recent characterization work has included analysis of components by differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), nuclear magnetic resonance (NMR) spectroscopy, ultraviolet-visible (UV-Vis) spectroscopy, Fourier transform infrared (FTIR) spectroscopy, optical microscopy, titration, and the analysis of gasses by electrochemical cells. Topics of interest include hydrogel applications, novel antimicrobial releasing materials, gas separation membranes, ion transport membranes, and medical device method development and testing.

Dr. Rubal completed his postdoctoral studies at Texas State University on polyimide gas permeation membranes which included incorporation of nanocomposites and the synthesis of hyperbranched architectures. During this period, he also taught second-year organic chemistry.

As a graduate student at the University of Akron, Dr. Rubal studied the structure-property relationships associated with the length of the flexible spacer group on laterally attached side-chain liquid crystalline polymers. By synthesis of a series of model compounds and monomers, as well as the controlled ring-opening metathesis polymerization of the monomers, clear thermotropic and liquid crystalline properties were established for the various spacer lengths. Furthermore, enatiospecific reductions were completed and incorporated into the polymer systems. As an undergraduate at Texas State University, Dr. Rubal became familiar with supercritical fluids and interpenetrating networks.

PROFESSIONAL CHRONOLOGY: Texas State University: postdoctoral associate, 2005-6; Southwest Research Institute: 2006-[research scientist, 2006-10; senior research scientist, 2010-15; group leader, 2015-present].

MEMBERSHIPS: American Chemical Society (Polymer Division)

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Abstract

Chlorine Dioxide Light Activated Releasing Additive

The result of over two decades of research at Southwest Research Institute (SwRI), in partnership with numerous commercial and government entities, has led to the development of a novel chlorine dioxide light activated releasing additive (CLARA). By overcoming the traditional storage related issues with the use of ClO2 and by incorporating the CLARA into easily extrudable plastic blends, numerous articles can be produced that can take full advantage of this powerful antimicrobial agent. Even given all the advantages of ClO2, verses other antimicrobial agents, the greatest hurdle to incorporation into various products is the regulatory constraints. In order to get product acceptability, therefore, it is desirable to incorporate CLARA into articles that can take advantage of less restrictive claims such as it's us as a deodorizer. The talk will highlight the technical production and extrusion of CLARA, history and IP surrounding it's use, and potential use in other markets besides antimicrobial.