



Foundation Supports Student Research

AATCC Foundation Student Research Support Grants provide funding for a variety of undergraduate and graduate research projects. Three projects were funded for 2010. The first was reported in the November/December issue of *AATCC Review* (p18). The others are summarized below.

PPE Comfort

Laura Lange is continuing work on her MS thesis under the direction of S. Kay Obendorf at Cornell University. Personal Protective Equipment (PPE) designed to protect agricultural workers from pesticides typically blocks water vapor and air flow as well. A modified fiber may be incorporated into conventional fabric structures that provide breathability. Magnesium oxide (MgO) nanoparticles were incorporated into a polypropylene melt-extruded fiber. The fibers will be plasma etched to expose the MgO and degradation of methyl parathion pesticide will be studied on fibers with and without MgO, and with and without etching.

NIR Detects Counterfeit Fibers

Jing Cao and advisor Suraj Sharma are studying innovative fiber identification at the University of Georgia. There is a need for a database of near infrared (NIR) spectra for high-performance textiles in order to detect contraband materials rapidly and quantitatively. PLA, *p*-aramid, spandex, and carbon fibers were successfully distinguished by NIR spectroscopy after preprocessing the raw data by three chemometric methods.

2011 Projects

Seven new projects have been selected for AATCC Foundation funding in 2011. These projects will receive a total of US\$6,000 to be used towards the purchase of test equipment, chemicals, and supplies.

Water Stable and Biocompatible Electrospun Nonwoven Matrices from Collagen for Medical Applications

Qiuran Jiang, Department of Textiles, Clothing & Design, University of Nebraska-Lincoln

Developing Biodegradable Protein Nanoparticles for Sorption of Dyes in Waste Water

Yue Zhang, Department of Textiles, Clothing & Design, University of Nebraska-Lincoln

Polyolefin-MgO Fiber for Self-decontamination of Organophosphorous

Dong Jin Woo, Department of Fiber Science and Apparel Design, Cornell University

Breathable Liquid Repellent Polypropylene Nonwovens for Surgical Gowns

Sudheer Jinka, Department of Environmental Toxicology, Texas Tech University

Constructive Breakdown in Cotton Seed Coat Fragments Using Laccase-mediator Systems.

Renuka Dhandapani, Department of Textiles, Merchandising and Interiors, University of Georgia

Facile and Low Cost Method to Create Graphene-composite Textiles

Ming Zhang, Department of Textiles, Merchandising and Interiors, University of Georgia

Biodegradation of Polyolefin Nonwovens

Brandi Keene, Department of Textile Chemistry/Engineering, North Carolina State University

www.aatcc.org/foundation/grants.htm

Student Chapter Explores Apparel Testing

By Benjamin M. Touchette,
Central Michigan University

Our student chapter had the privilege of becoming more familiar with the apparel product performance equipment available at Central Michigan University. A professor that uses the equipment

