



News Release

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New Frontiers in Fiber Materials Science Symposium

RESEARCH TRIANGLE PARK, N.C., USA, August 10, 2011—AATCC, The Fiber Society, and the National Textile Center will offer an international symposium on *Fibers as Building Blocks of Advanced Materials*, October 11–13, 2011, in Charleston, South Carolina, USA.

This symposium is a response to, and reflection of, recent advances in nanoscience and technology. Driven by a growing demand from the biomedical, energy, transportation, and communications sectors for materials necessary for new and diverse applications, fiber materials science and engineering is being challenged to find solutions.

The symposium is structured around a series of sixteen mini-symposia—from optical fibers to biomimetics to fiber science theory and computer simulations. Participants will engage in a conversation that poses questions and explores the answers, with an eye toward everyday and novel applications.

The registration fee for the three-day program is US\$500 to AATCC and Fiber Society members and US\$750 to nonmembers. The cost for students is US\$175. After September 26 fees will increase so register early and save. Refunds (minus a US\$75 cancellation fee) will be honored if cancellations are received on or before October 3, 2011.

Details and registration: www.aatcc.org/events/symposia/index.htm.

Presentations include:

- Breathable Liquid Repellent Polypropylene Nonwovens for Surgical Gowns; **Sudheer Jinka**, Texas Tech University, USA
- Textile Heartvalve Prosthesis: Assessment of In Vivo Performances; **Frederic Heim**, Universite de Haute Alsace, France
- Development of Superhydrophobic Fabrics Using Carbon Nanotubes; **Myoung Hee Shim**, Seoul National University, Korea

- Photovoltaic Fiber Having Zinc Oxide-Nanoparticles (zno-np) and Inverted Layer Sequence; **Ismail Borazan**, Istanbul Technical University, Turkey
- Flexible Magnetic Fibers as Micromachines and Mixers; **Andrejs Cebers**, University of Latvia, Latvia
- Optimizing Conditions for Creating Graphene Coatings to Create Unique Textile Materials; **Ian Hardin**, University of Georgia, USA
- Effect of Cotton Fiber Properties on Properties of Hydroentangled Nonwoven Fabrics; **Paul Sawhney**, USDA-ARS-SRRC, USA
- Tunable Capillary Pore Membranes; **Glen Simmonds**, DuPont, USA
- Characterization of Inter-Fiber Capillary Distance for C-CP Polymer Fiber Separations Columns; **Christopher Cox**, Clemson University, USA
- De Novo Assembly of Extracellular Matrix Proteins; **Mohammad R. Badrossamay**, Harvard University, USA
- Botanical Hydroscopic Shape Change Mechanisms for Composite Textile Systems; **Veronika Kapsali**, MMT Textiles, United Kingdom
- Artificial Proboscises; **Konstantin Kornev**, Clemson University, USA
- Structure-Function Relationships in Synthetic Spider Silk Fibers Made from Chimeric Proteins; **Florence Teulé**, Utah State University, USA
- Ant-Tex: 3-D Visualization of the Water-Repellent Network of Fire Ants; **Nathan Mlot**, Georgia Institute of Technology, USA
- Biopolymer Assembled Nanofibers; **You-Lo Hsieh**, University of California, Davis, USA
- Fabrication and Characterization of Carbon Nanofiber by Pyrolysis of Freeze-Dried Cellulose Nanofiber; **Ehsan Jazaeri**, Deakin University, Australia
- Crystalline and Tensile Properties of Carbon Nanotube-Filled Polyamide-12 Fibers Meltspun by Industry-Related Processes; **Sanjukta Chatterjee**, EMPA, Switzerland
- Mechanical Properties of Composite Plates Produced from 1x1 Rib Knit Fabrics with Carbon Fibers; **Mehmet Yuksekkaya**, Usak University, Turkey
- Rapid Manufacture of Carbon Fiber from Organosolv Lignins; **Darren Baker**, University of Tennessee, USA
- Electromagnetic Shielding Mechanisms of Ultra-High Thermally Treated Carbon Nanofibers-LLDPE Nanocomposites; **Byron Villacorta**, Clemson University, USA
- High Thermal Conductivity Carbon Fibers and Fabrics: Low-Cost Petroleum Pitch Precursors; **Young-Pyo Jeon**, Clemson University, USA
- A Process for Noncircular, High-Luster Acrylic Fiber; **Anasuya Sahoo**, Aditya Birla Science & Technology, India
- Effect of the Blending of High-Tacticity Component on the Structure and Properties of Elastomeric Fibers of Low-Tacticity Polypropylene; **Takeshi Kikutani**, Tokyo Institute of Technology, Japan
- Polymer Fiber-Based Field Effect Transistors: Advances and Opportunities; **Richard Gregory**, Old Dominion University, USA
- Production and Characterization of Electrospun Polyaniline; **Yuxi Zhang**, MIT, USA

- Electrospun Nanofibrous Mats for Composite Membranes; **Benjamin Chu**, Stony Brook University, USA
- Emulsion Electrospinning of Chitin Nanocrystallites Reinforced Polylactic Acid Nanofiber; **Yuqin Wan**, Jiangnan University, China
- An Investigation on the Stability of Jet and Electrospinnability of Chitosan/PEO Solutions; **Mehdi Pakravan**, Ecole Polytechnique de Montreal, Canada
- The History of the Science and Technology of Electrospinning from 1600 to 1995; **Kathleen Hofman**, NZ Institute for Plant & Food Research, New Zealand
- Increasing Sampling Efficiency of Particles Using Nanofibers; **Eyal Zussman**, Technion, Israel
- Chitosan-Based Nanofibrous Materials for Effective Burn Treatment; **Yury Salkovskiy**, Saratov State University, Russia
- Mechanical and Morphological Properties of Polymer Nanofibers; **Darrell Reneker**, University of Akron, USA
- Biomineralized, Highly-Aligned, Nanofiber Array-Based Building Unit for Bone Regeneration; **Eleni Katsanevakis**, Clemson University, USA
- Continuous Nanofiber--Reinforced Structural Nanocomposites; **Yuris Dzenis**, University of Nebraska, Lincoln, USA
- A Model for Mesophase Wetting of Sheets, Fiber, and Fiber Bundles; **Alejandro Rey**, McGill University, Canada
- Structure and Mechanics of Fiber-Reinforced Cylindrical Membranes; **Yogesh Kumar Murugesan**, McGill University, Canada
- Modeling of Liquid Wicking Through Freely Hanging Fabrics; **Daria Monaenkova**, Clemson University, USA
- Onset of Electrospinning; **David Lukas**, Technical University of Liberec, Czech Republic
- Bending and Position Hysteresis of Magnetic Microfibers in Nonuniform Magnetic Fields; **Richard Groff**, Clemson University, USA
- Nonclassical Scaling for Forced Wetting of a Nematic Fluid on a Polymeric Fiber; **Mohan Srinivasarao**, Georgia Institute of Technology
- Dynamics of Rotational Film Fibrillation and Nanofiber Formation; **Tao Huang**, DuPont, USA
- From Centrifugal Spraying to Nanofiber Spinning; **Tao Huang**, DuPont, USA
- Temperature Responsive Fibers for "Smart" Thermal Insulation; **Stephen Fossey**, U.S. Army Natick Soldier RDE Center, USA
- Structure of Porous, High-Modulus Polypropylene Fibers; **David Salem**, South Dakota School of Mines & Technology, USA
- Properties of Nanoclay-Added Composite Polypropylene Monofilaments Using Twin and Single Screw Extruders; **Sabit Adanur**, Auburn University, USA
- Free-Surface Electrospinning from a Wire Electrode; **Keith Forward**, MIT, USA
- Micro- and Nanofiber Bundles as a Platform for Sensitive Detection of Biomacromolecules; **Kenneth Christensen**, Clemson University, USA
- Electrospun Nanofibers for Microfluidic Analytical Systems; **Margaret Frey**, Cornell University, USA

- Self-Assembly of Optically Responsive Nematic Liquid Crystal/Polymer Core-Shell Fibers; **Ebru Buyuktanir**, Kent State University, USA
- Fabrication and Characterization of Electrospun Semiconductor Nanoparticle-Polyelectrolyte Ultra-Fine Fiber Composites; **Caroline Schauer**, Drexel University, USA
- Fiber-Based Biosensors for mRNA Extraction from Cells; **Victor Maximov**, Clemson University, USA
- Development of a Rapid Fiber-Based Immunoassay; **Waddell Ryan**, Clemson University, USA
- Composite Wet Spun Polymer--Nanotube Fibers; **Phillipe Poulin**, CNRS, France
- Direct Formation of Carbon Nanotube Fibers During Carbonization Process; **Teddy Keller**, Naval Research Laboratory, USA
- Recent Advances in Carbon Nanotubes Fibres; **Juan Vilatela**, University of Cambridge, United Kingdom
- Nanotailored Carbon Fibers via Ultra-Long Carbon Nanotubes: Scale-Up and Post Processing; **Jay Gaillard**, Savannah River National Laboratory, USA
- Surface Tension Analysis for Characterization of Carbon Nanotube Dispersion; **Vijaya Sa**, Clemson University, USA
- Microwave-Promoted Deposition of Functionalized Nanoscopic Silica Coatings for Protective Textile Applications; **Jeffery Owens**, AFRL, USA
- Inkjet Printing Equipment for Narrow Fabrics; **Bertram Wendisch**, Universite de Haute Alsace, France
- Surface Functionalization of Fibers by Grafting to Method; **Igor Luzinov**, Clemson University, USA
- Formation and Application of Functional Coatings on Synthetic Fibers; **Jan Genzer**, North Carolina State University, USA
- Stimuli-Responsive Alginate Fibers; **Sergiy Minko**, Clarkson University, USA
- Surface-tethered (Bio)Macromolecular Nanostructures and Characterization; **Stefan Zauscher**, Duke University, USA
- A Study on the Photostability of Photochromic Fabrics from Hybrid Organosilica Coatings; **Marzieh Parhizkar**, Deakin University, Australia
- Design and Development of Fibers and Flexure Rate-Dependent Viscoelastic Properties; **Rudolf Hufenus**, EMPA, Switzerland
- Piezo-Electric Sensor Fibers Based on Meltspun Poly(vinylidene fluoride) and Electrically Conductive Polymer Nanocomposites; **Stephan Walter**, RWTH Aachen University, Germany
- Bamboo: A Multifunctional "Green" Fibre; **Tarannum Afrin**, Deakin University, Australia
- Self-Decontaminating Multifunctional Nano/Submicrofibers and Nanofibrous Membranes; **Gang Sun**, University of California, Davis, USA
- Investigation of Subcritical Crack Growth in Glass Fibers Using Load Relaxation Tests on Bundles; **Jacques Lamon**, CNRS/National Institute of Applied Science, France
- Advances in Semiconductor Core Optical Fibers; **Speaker TBA**, Clemson University, USA

- A Phototherapy Device Prototype for Neonatal Jaundice Based on POF Fabric; **Jing Shen**, Hong Kong Polytechnic University, China
- Low-Loss, High-Strength Fibers from Improved Chalcogenide Glasses; **Sylvain Danto**, Clemson University, USA
- Optically Active Polymeric-Based Fibers; **Phil Brown**, Clemson University, USA
- Removal of Spandex from Polyamide/Spandex Blended Fabrics by Selective Depolymerization; **Youjiang Wang**, Georgia Institute of Technology, USA
- Polymer Waste Streams for Synthetic Turf Infill; **Richard Harper**, Georgia Institute of Technology, USA
- Comparative Study of Characteristics of Knitted Fabrics Made of Recycled Fibres; **Karina Takamune**, University of Sao Paulo, Brazil
- Dynamics of a Drop on Elastic Fibers; **Camille Duprat**, Princeton University, USA
- Experimental Determination of Ballistic Performance-Flexibility Relations for Multilayered and Multidirectional Stitched Aramid Woven Fabric Structures; **Kadir Bilisik**, Erciyes University, Turkey
- Textiles for the Next Generation of Military Clothing; **Eugene Wilusz**, U.S. Army Natick Soldier RDE Center, USA
- Toward Self-Cooling Gradient Shell for Body Armor; **Ruslan Burtovyy**, Clemson University, USA
- Oleophobic Coating for Self-cleaning, Fluid Resistant Textiles; **Laura Habersack**, Luna Innovations Inc., USA
- Observations on the Behaviour of Chemical Warfare Agents and Other Liquids on Super-Repellent Textiles; **Corrine Stone**, Dstl, United Kingdom
- Moisture Transport and Reaction Enhancements in Fabrics; **Heidi Schreuder-Gibson**, U.S. Army Natick Soldier RDE Center, USA
- Wettability Gradient-Driven Directional Water-Transport Across Thin Fibrous Materials; **Tong Lin**, Deakin University, Australia
- Needleless Electrospinning and Direct Electrospinning of Nanofiber Yarns; **Tong Lin**, Deakin University, Australia

The Fiber Society is offering two pre-conference short courses:

- Advanced Fiber Process Development; **Chris Cox**, Clemson University's Center for Advanced Engineering Fibers and Film
- Composites; **Michael Meador**, NASA

Course information and registration are available at fibers2011.org. Under Conference, you will find links for course syllabuses and registration forms. While the short courses are in conjunction with the symposium, they are separate with regard to participation and registration. For inquiries regarding these short courses, contact Pam Gabriel, the Fiber Society, psgabrie@ncsu.edu.

ABOUT AATCC: *AATCC is the world's leading not-for-profit association serving textile professionals since 1921. AATCC, headquartered in Research Triangle Park, N.C., USA, provides test method development, quality control materials, and professional networking for its members around the world. Additional information is available at www.aatcc.org.*

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