



THE FIBER SOCIETY



Advancing Scientific Knowledge  
Pertaining to Fibers and Fibrous Materials

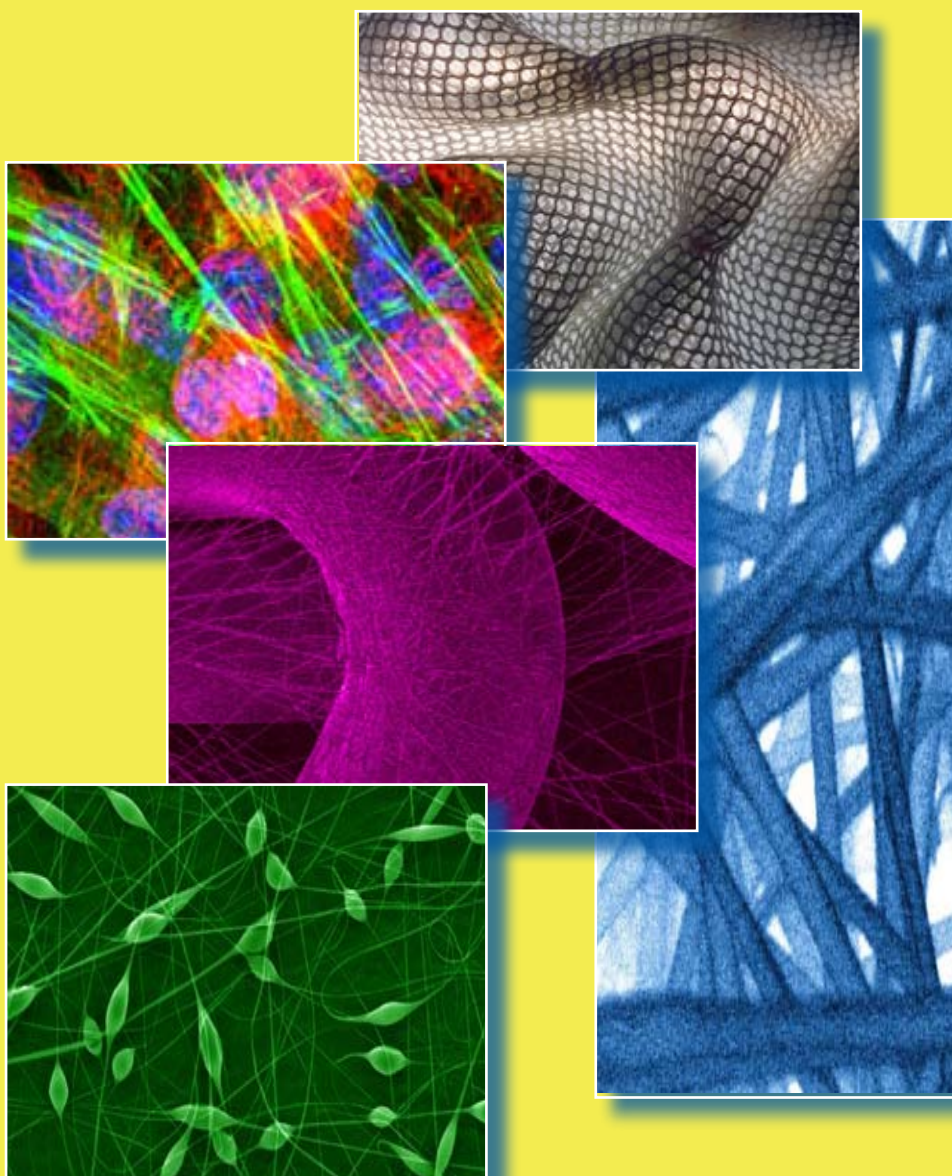


*are partnering to present*

# New Frontiers *in* Fiber Materials Science

Francis Marion Hotel, Charleston, S.C., USA

October 11-13, 2011



# Plenary Presentation

## Plant Fibre Structures Inspire Novel Materials and Mechanisms

Julian Vincent, University of Bath, United Kingdom

*Plants are largely composed of cellulose fibres in a matrix of some sort. The major variables are those which would be found in a textile (orientations of, and interactions between, the fibres) and a composite material (interactions of fibre and matrix, modifications of the matrix). Materials are unresponsive: examples are wood, which has inspired a material with very high specific toughness in impact, and a lily leaf, which has interesting fracture behaviour. Mechanisms can respond to their environment: examples chosen are based on bilayers, which can change shape in gradual or catastrophic modes in response to environmental cues. These examples are adaptive in some manner, illustrating the selective advantage they give to the relevant organisms and implying advantage for a biomimetic version. Commercial development will be illustrated.*

## Tuesday, October 11, 2011

7:00 **Registration Opens**

### CAROLINA A and B

7:45 **Welcome and Opening Remarks**

Konstantin Kornev, *Fiber Society, Symposium Co-chair*

Philip Brown, *AATCC, Symposium Co-chair*

Martin I. Jacobs, *National Textile Center*

Ian R. Hardin, *Fiber Society President*

Fred L. Cook, *AATCC Immediate Past President*

8:00–8:45 **Plenary Talk:** Julian Vincent, University of Bath, United Kingdom  
*Plant Fibre Structures Inspire Novel Materials and Mechanisms*

### CAROLINA A

#### **Session: Fibers from Carbon Nanotubes and Applications**

*Session Chair: Philippe Poulin, CNRS, France*

9:15 **Composite Wet Spun Polymer — Nanotube Fibers** - Philippe Poulin, CNRS, France

9:45 **Direct Formation of Carbon Nanotube Fibers During Carbonization Process** - Teddy M. Keller, Naval Research Laboratory

10:15 Break

10:30 **Recent Advances in Carbon Nanotube Fibres** - Juan J. Vilatela, University of Cambridge, United Kingdom

11:00 **Nanotailored Carbon Fibers via Ultralong Carbon Nanotubes: Scale-up and Post Processing** - Jay B. Gaillard, Savannah River National Laboratory

11:30 **Surface Tension Analysis for Characterization of Carbon Nanotube Dispersion** - Vijaya Sa, Clemson University

12:00 Lunch On Your Own

2:00–4:00 **Poster and Tabletop Setup**

5:15–7:00 **Poster Session, Tabletops, and Reception, Carolina A**

### CAROLINA B

#### **Session: Fiber Spinning**

*Session Chair: Philip J. Brown, Clemson University*

9:15 **Structure of Porous, High-modulus Polypropylene Fibers** - David R. Salem, South Dakota School of Mines & Technology

9:45 **Temperature-responsive Fibers for “Smart” Thermal Insulation** - Stephen A. Fossey, U.S. Army Natick Soldier RDE Center

10:15 Break

10:30 **From Centrifugal Spraying to Nanofiber Spinning** - Tao Huang, DuPont

11:00 **Free-surface Electrospinning from a Wire Electrode** - Keith M. Forward, MIT

11:30 **Properties of Nanoclay-added Composite Polypropylene Monofilaments Using Twin and Single Screw Extruders** - Sabit Adanur, Auburn University

12:00 Lunch On Your Own

- 1:30 **Fiber Society Student Paper Competition**
- 2:45 Break
- 3:00 **National Textile Center Student Paper Competition**
- 5:00 **Session Concludes**

## **CALHOUN**

### **Session: Multifunctional Fibers**

*Session Chair: Rudolf Hufenus, Empa, Switzerland*

- 9:15 **Design and Development of Fibers with Flexure Rate-dependent Viscoelastic Properties** - Rudolf Hufenus, Empa, Switzerland
- 9:45 **A Study on the Photostability of Photochromic Fabrics from Hybrid Organosilica Coatings** - Marzieh Parhizkar, Deakin University, Australia
- 10:15 Break
- 10:30 **Piezoelectric Sensor Fibers Based on Meltspun Poly(vinylidene fluoride) and Electrically Conductive Polymer Nanocomposites** - Stephan Walter, RWTH Aachen University, Germany
- 11:00 **Bamboo: A Multifunctional "Green" Fibre** - Tarannum Afrin, Deakin University, Australia
- 11:30 **Self-decontaminating Multifunctional Nano/Submicrofibers and Nanofibrous Membranes** - Gang Sun, University of California, Davis
- 12:00 Lunch On Your Own

## **Wednesday, October 12, 2011**

## **CAROLINA A**

### **Session: Electrospun Nanofibers for Composites**

*Session Chair: Yuris Dzenis, University of Nebraska, Lincoln*

- 8:00 **The History of the Science and Technology of Electrospinning from 1600 to 1995** - Kathleen Hofman, NZ Institute for Plant & Food Research, New Zealand
- 8:30 **Mechanical and Morphological Properties of Polymer Nanofibers** - Darrell Reneker, University of Akron
- 9:00 **Increasing Sampling Efficiency of Particles Using Nanofibers** - Eyal Zussman, Technicon, Israel
- 9:30 **Production and Characterization of Electrospun Polyaniline** - Yuxi Zhang, MIT
- 10:00 Break
- 10:15 **Onset of Electrospinning** - David Lukas, Technical University of Liberec, Czech Republic
- 10:45 **An Investigation on the Stability of Jet and Electrospinnability of Chitosan/PEO Solutions** - Mehdi Pakravan, Ecole Polytechnique de Montreal, Canada
- 11:15 **Electrospun Nanofibrous Mats for Composite Membranes** - Benjamin Chu, Stony Brook University
- 11:45 Lunch On Your Own

### **Session: Electrospun Nanofibers for Composites (continued)**

*Session Chair: Yuris Dzenis, University of Nebraska, Lincoln*

- 1:30 **Needleless Electrospinning and Direct Electrospinning of Nanofiber Yarns** - Tong Lin, Deakin University, Australia
- 2:00 **Chitosan-based Nanofibrous Materials for Effective Burn Treatment** - Yury Salkovskiy, Saratov State University, Russia
- 2:30 **Biomaterialized, Highly Aligned, Nanofiber Array-based Building Unit for Bone Regeneration** - Eleni Katsanevakis, Clemson University
- 3:00 **Continuous Nanofiber: Reinforced Structural Nanocomposites** - Yuris Dzenis, University of Nebraska, Lincoln
- 3:30 Break

### **Session: Advances in Fiber-based Materials**

*Session Chair: Jack Gillespie, University of Delaware*

- 3:45 **Optimizing Conditions for Creating Graphene Coatings to Create Unique Textile Materials** - Ian R. Hardin, University of Georgia
- 4:15 **Effect of Cotton Fiber Properties on Properties of Hydroentangled Nonwoven Fabrics** - Paul Sawhney, USDA-ARS-SRRC
- 4:45 **Tunable Capillary Pore Membranes** - Glen Simmonds, DuPont
- 5:15 **Effects of Abrasion on Tenacity of Synthetic Fibers** - A. Abu Obaid, University of Delaware
- 5:45 **Session Concludes**

## **CAROLINA B**

### **Session: Advanced Textile Materials**

*Session Chair: Martin I. Jacobs, National Textile Center*

- 8:00 **Photovoltaic Fiber Having Zinc Oxide-Nanoparticles (ZnO-np) and Inverted Layer Sequence** - Ismail Borazan, Istanbul Technical University, Turkey
- 8:30 **Textile Heartvalve Prosthesis: Assessment of In Vivo Performances** - Frederic Heim, ENSISA, France
- 9:00 **De Novo Assembly of Extracellular Matrix Proteins** - Mohammad R. Badrossamay, Harvard University
- 9:30 **Breathable Liquid Repellent Polypropylene Nonwovens for Surgical Gowns** - Sudheer Jinka, Texas Tech University
- 10:00 Break

### **Session: Fiber Science Theory and Computer Simulations**

*Session Chair: Alejandro Rey, McGill University, Canada*

- 10:15 **A Model for Mesophase Wetting of Sheets, Fiber, and Fiber Bundles** - Alejandro Rey, McGill University, Canada
- 10:45 **Nonclassical Scaling for Forced Wetting of a Nematic Fluid on a Polymeric Fiber** - Mohan Srinivasarao, Georgia Institute of Technology
- 11:15 **Textile Composite Structures for Sensor Data Transport from Ocean Depths to Internet** - Walter Paul, Woods Hole Oceanographic Institution
- 11:45 Lunch On Your Own

### **Session: Fiber Science Theory and Computer Simulations (continued)**

*Session Chair: Alejandro Rey, McGill University, Canada*

- 1:30 **Bending and Position Hysteresis of Magnetic Microfibers in Nonuniform Magnetic Fields** - Richard Groff, Clemson University
- 2:00 **Structure and Mechanics of Fiber-reinforced Cylindrical Membranes** - Yogesh Kumar Murugesan, McGill University, Canada
- 2:30 **Modeling of Liquid Wicking Through Freely Hanging Fabrics** - Daria Monaenkova, Clemson University
- 3:00 **Characterization of Interfiber Capillary Distance for C-CP Polymer Fiber Separations Columns** - Christopher Cox, Clemson University
- 3:30 Break
- 3:45 **Dynamics of Rotational Film Fibrillation and Nanofiber Formation** - Tao Huang, DuPont

### **Session: Control of Fiber Structures**

*Session Chair: Takeshi Kikutani, Tokyo Institute of Technology, Japan*

- 4:15 **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
- 4:45 **Polymer Fiber-based Field Effect Transistors: Advances and Opportunities** - Richard Gregory, Old Dominion University
- 5:15 **A Process for Noncircular, High-luster Acrylic Fiber** - Anasuya Sahoo, Aditya Birla Science & Technology, India
- 5:45 **Session Concludes**

## **CALHOUN**

### **Session: Carbon Fibers and Composites**

*Session Chair: Amod Ogale, Clemson University*

- 8:00 **Crystalline and Tensile Properties of Carbon Nanotube-filled Polyamide-12 Fibers Meltspun by Industry-related Processes** - Sanjukta Chatterjee, Empa, Switzerland
- 8:30 **Electromagnetic Shielding Mechanisms of Ultrahigh Thermally Treated Carbon Nanofibers-LLDPE Nanocomposites** - Byron Villacorta, Clemson University
- 9:00 **Fabrication and Characterization of Carbon Nanofiber by Pyrolysis of Freeze-dried Cellulose Nanofiber** - Ehsan Jazaeri, Deakin University, Australia
- 9:30 **Mechanical Properties of Composite Plates Produced from 1x1 Rib Knit Fabrics with Carbon Fibers** - Mehmet Yuksekkaya, Usak University, Turkey
- 10:00 Break
- 10:15 **High Thermal Conductivity Carbon Fibers and Fabrics: Low-cost Petroleum Pitch Precursors** - Young-Pyo Jeon, Clemson University
- 10:45 **Rapid Manufacture of Carbon Fiber from Organosolv Lignins** - Darren Baker, University of Tennessee

11:15 **Presentation TBA**

11:45 Lunch On Your Own

**Session: Fiber-based Probes and Sensors**

*Session Chair: Margaret Frey, Cornell University*

- 1:30 **Electrospun Nanofibers for Microfluidic Analytical Systems** - Margaret W. Frey, Cornell University
- 2:00 **Micro- and Nanofiber Bundles as a Platform for Sensitive Detection of Biomacromolecules** - Kenneth A. Christensen, Clemson University
- 2:30 **Fabrication and Characterization of Electrospun Semiconductor Nanoparticle-Polyelectrolyte Ultrafine Fiber Composites** - Caroline L. Schauer, Drexel University
- 3:00 **Development of a Rapid Fiber-based Immunoassay** - Ryan Waddell, Clemson University
- 3:30 Break
- 3:45 **Fiber-based Biosensors for mRNA Extraction from Cells** - Victor Maximov, Clemson University
- 4:15 **Self-assembly of Optically Responsive Nematic Liquid Crystal/Polymer Core-Shell Fibers** - Ebru A. Buyuktanir, Kent State University

**Session: Functionalization of Fiber Surfaces**

*Session Chair: Igor Luzinov, Clemson University*

- 4:45 **Microwave-promoted Deposition of Functionalized Nanoscopic Silica Coatings for Protective Textile Applications** - Jeffery Owens, AFRL
- 5:15 **Surface-tethered (Bio)Macromolecular Nanostructures and Characterization** - Stefan Zauscher, Duke University
- 5:45 **Session Concludes**
- 6:00–6:45 **Fiber Society Annual Business Meeting** (Open to Fiber Society Members Only)

**GOLD BALLROOM**

- 7:00 **Reception** (cash bar), Prefunction Area
- 7:30 **Awards Banquet**  
**Speaker:** Adrian Freed, CNMAT, UC Berkeley, and Fine Arts, Concordia University, Montreal  
*Building Interactivity in Textiles and Related Fibers*

**Thursday, October 13, 2011**

**CAROLINA A**

**Session: Protective Clothing and Wetting of Textiles**

*Session Chair: Jeffery Owens, AFRL*

- 8:00 **Dynamics of a Drop on Elastic Fibers** - Camille Duprat, Princeton University
- 8:30 **Experimental Determination of Ballistic Performance-Flexibility Relations for Multi layered and Multidirectional Stitched Aramid Woven Fabric Structures** - Kadir Bilisik, Erciyes University, Turkey
- 9:00 **Textiles for the Next Generation of Military Clothing** - Eugene Wilusz, U.S. Army Natick Soldier RDE Center

# Awards Banquet speaker

**Building Interactivity in Textiles and Related Fibers**

Adrian Freed, Research Director

CNMAT, UC Berkeley, and Fine Arts, Concordia University, Montreal

*After a quick review of recent rapid developments in intrinsic fiber and textile sensing and actuation, Dr. Freed will demonstrate pressure, stretch, position, acceleration, and multitouch sensors built with paper and textile structures. Their performance will be shown informally by integrating them into functional musical instruments. He will close with a vision of how a design theory and practice may be developed for these materials, illustrated with new, folded, and pleated piezoresistive structures that have just begun to be explored.*

- 9:30 **Toward Self-cooling Gradient Shell for Body Armor** - Ruslan Burtovyy, Clemson University
- 10:00 Break
- 10:15 **Oleophobic Coating for Self-cleaning, Fluid-resistant Textiles** - Laura Habersack, Luna Innovations Inc.
- 10:45 **Observations on the Behaviour of Chemical Warfare Agents and Other Liquids on Super-repellent Textiles** - Corrine Stone, Dstl, United Kingdom
- 11:15 **Moisture Transport and Reaction Enhancements in Fabrics** - Heidi Schreuder-Gibson, U.S. Army Natick Soldier RDE Center
- 11:45 **Wettability Gradient-driven Directional Water Transport Across Thin Fibrous Materials** - Tong Lin, Deakin University, Australia
- 12:15 **Generation of Short Hypersonic Water Jet for Testing of a Material's Rain Erosion Resistivity** - Sergey Lopatnikov, University of Delaware
- 12:45 **Conference Concludes**

## **CAROLINA B**

### **Session: Biomimetics for Fiber Science**

*Session Chair: You-Lo Hsieh, University of California, Davis*

- 8:00 **Artificial Proboscises** - Konstantin Kornev, Clemson University
- 8:30 **Botanical Hydroscopic Shape Change Mechanisms for Composite Textile Systems** - Veronika Kapsali, MMT Textiles, United Kingdom
- 9:00 **Ant-Tex: 3-D Visualization of the Water-repellent Network of Fire Ants** - Nathan Mlot, Georgia Institute of Technology
- 9:30 **Structure-Function Relationships in Synthetic Spider Silk Fibers Made from Chimeric Proteins** - Florence Teulé, Utah State University
- 10:00 Break
- 10:15 **Biopolymer-assembled Nanofibers** - You-Lo Hsieh, University of California, Davis
- 10:45 **Emulsion Electrospinning of Chitin Nanocrystallites-reinforced Poly(lactic Acid) Nanofiber** - Yuqin Wan, Jiangnan University, China

### **Session: Polymer Synthesis and Recycling**

*Session Chair: Fred Cook, Georgia Institute of Technology*

- 11:15 **Removal of Spandex from Polyamide/Spandex-blended Fabrics by Selective Depolymerization** - Youjiang Wang, Georgia Institute of Technology
- 11:45 **Polymer Waste Streams for Synthetic Turf Infill** - Richard E. Harper, Georgia Institute of Technology
- 12:15 **Comparative Study of Characteristics of Knitted Fabrics Made of Recycled Fibres** - Karina Takamune, University of São Paulo, Brazil
- 12:45 **Conference Concludes**

## **GOLD BALLROOM**

### **Session: Functionalization of Fiber Surfaces** *(continued from Wednesday)*

*Session Chair: Igor Luzinov, Clemson University*

- 8:00 **Surface Functionalization of Fibers by Grafting to Method** - Igor Luzinov, Clemson University
- 8:30 **Inkjet Printing Equipment for Narrow Fabrics** - Bertram Wendisch, ENSISA, France
- 9:00 **Formation and Application of Functional Coatings on Synthetic Fibers** - Jan Genzer, North Carolina State University
- 9:30 **Stimuli-responsive Alginate Fibers** - Sergiy Minko, Clarkson University
- 10:00 Break

### **Session: Optical Fibers**

*Session Chair: Kathleen Richardson, Clemson University*

- 10:15 **Investigation of Subcritical Crack Growth in Glass Fibers Using Load Relaxation Tests on Bundles** - Jacques Lamon, CNRS/National Institute of Applied Science, France
- 10:45 **Advances in Semiconductor Core Optical Fibers** - Stephanie Morris, Clemson University
- 11:15 **A Phototherapy Device Prototype for Neonatal Jaundice Based on POF Fabric** - Jing Shen, Hong Kong Polytechnic University, China
- 11:45 **Low-loss, High-strength Fibers from Improved Chalcogenide Glasses** - Sylvain Danto, Clemson University
- 12:15 **Optically Active Polymeric-based Fibers** - Philip Brown, Clemson University
- 12:45 **Conference Concludes**

# Poster Session

Session Chair: Konstantin Kornev  
Tuesday, October 11, 5:15–7:00, Carolina A

<b><u>Presenter</u></b>	<b><u>Title</u></b>
Min Li	<b>Fabrication and Property of the Conductive PTFE/CB Fiber</b>
Mohamed Boutaayamou	<b>Study of Conduction Mechanisms in Antistatic Felts at the Mesoscopic Scale</b>
Maja Somogyi Skoc	<b>Properties and Preparation of Resistant Polyurethane-coated Fabrics to Ageing by Sol-Gel Thin Films</b>
HoDong Kim	<b>A Study on Physical Property of Cement Composite Reinforced with Silane-treated Basalt Chopped Fiber</b>
Kara Phillips	<b>Natural Versus Manmade Fabrics: Anisotropic Mechanical Properties</b>
Phil Gibson	<b>Dynamic Permeability of Porous Elastic Fabrics</b>
Zhi-juan Pan	<b>Effects of Heat Treatment on the Morphology and Mechanical Property of Electrospun PSU Nanofibrous Membrane</b>
Sun Young Park	<b>The Influence of Spinning Parameters on PVDF Nanofiber Crystallinity and Crystalline Phase Formation</b>
Bharat Bajaj	<b>Coiled Fibers of Poly(amide-co-imide) and Poly(trimellitic anhydride chloride-co-4,4'-methylene dianiline) by Using Mechano-Electrospinning</b>
Chen-Chih Tsai	<b>Highly Aligned Electrospun Nanofiber Yarns</b>
Maryana Kovalchuk	<b>Fiber-based Probes for Cell Analyses</b>
Tieling Xing	<b>Structure and Properties of Silk Grafted with N,N-Dimethylaminoethyl Methacrylate via ARGET ATRP Method</b>
Nikitha Gutha	<b>Fluoride Filtration in Drinking Water Using Functionalized Nanofibers</b>
Austin Beachler	<b>Spreading of Liquids on Porous Surfaces</b>
Mahmut O. Kesimci	<b>Development of Surface Differential Scanning Calorimeter for Evaluation of Evaporative Cooling Efficiency</b>
Taras Andruk	<b>Imbibition of Liquids into Capillaries</b>
Nancy Elizabeth Allen	<b>Incorporation and Performance of Molecular Polyoxometalates in Cellulose Substrates</b>
Xiao-Shi Xu	<b>Mechanism of Surface Roughness Development in Melt Spinning of Blend Fibers for Artificial Hair</b>
Michael S. Ellison	<b>The Challenges of Material Selection for Compliant Robotic Surfaces</b>
Sam Lukubira	<b>Melt Spinning of Soy Flour-based Fibers</b>
Aysin Dural Erem	<b>Antimicrobial Activity of Polypropylene/Titanium Dioxide Films on Methicillin-resistant Staphylococcus Aureus</b>
Martin King	<b>The Effect of Silver Antimicrobials on the Physical and Thermophysiological Properties of Burn Pressure Garments</b>
Mustafa Üreyen	<b>Imparting Multifunctional Properties to PES/Cotton Woven Fabrics by Fluorocarbon and Silver-based Finishing Agents</b>
Laura E. Lange	<b>Effects of Plasma Etching on Self-decontaminating Properties of Magnesium Oxide Nanoparticles in Polypropylene Fibers</b>
Burcak Karaguzel Kayaoglu	<b>Improving Hydrophobicity on Synthetic Leather Through Plasma Polymerization for Easy Care Effect</b>
Zarife Dogan	<b>A Novel Silver Sulfadiazine-loaded Electrospun Nanofiber Wound Dressing</b>
Ruma Chakrabarti	<b>Anti-soiling Finish of Polyester Fabrics</b>
Usha Sayed	<b>Biomimicking of Enzymes for Textile Processing</b>
Tamer Abdalrahman	<b>Hierarchical Architectures for the Strengthening of Mixed-fibre Composites</b>
Chen-Chih Tsai	<b>Microwave Heating Study of Carbon Nanofiber Nano-composites</b>
Shinjung Yoo	<b>Upper Body Sweat Rate, Skin Temperature, and Clothing Microclimate Distribution During Winter Cycling with Air Flow</b>
Myoung Hee Shim	<b>Development of Superhydrophobic Fabrics Using Carbon</b>

### Exhibit Opportunity

Organizations are invited to participate in the tabletop exhibition. This is a low-cost way to reach a targeted audience. Tabletop displays are available and held in conjunction with the 5:15 – 7:00 pm reception on Tuesday, October 11. The cost of a 8' x 30" draped table on which to display your products and brochures is \$350. Companies requesting a tabletop must have a representative registered to attend the conference. To reserve a tabletop display [download and return the completed form](#) to nicholk@aatcc.org.

### Sponsorship Opportunities

Opportunities are available for individual and corporate sponsorship of this international gathering. [Download a complete list of sponsorships and benefits](#) and/or the [sponsorship request form](#).

### Student Paper Competition

The Fiber Society and the National Textile Center Student Paper Competitions will be held on the afternoon of October 11. Hear top student researchers present their work.

### Awards Banquet

October 12, 7:30 p.m.  
Guest speaker, Adrian Freed, CNMAT, UC Berkeley, and Fine Arts, Concordia University, Montreal will present "Building Interactivity in Textiles and Related Fibers."

### Venue

Francis Marion Hotel  
387 King Street  
Charleston, S.C., USA

Charleston, South Carolina, is a beautiful, antebellum city steeped in American history, in a state with a respected and deep-rooted association with fibers and fiber products—a state that looks to the future as it works to create opportunities in the expanding world of fiber science.

### Accommodations

Reservation Deadline September 9, 2011  
+1 843 722 0600 or +1 877 756 2121  
A room block is reserved at the Francis Marion Hotel for US\$149 per night. A first night's room and tax deposit are due with each reservation. Deposits may be made by check or credit card. Reservations must be made by 5:00 p.m. (EDT) on September 9, 2011 to ensure room availability. Make reservations or changes directly with the hotel and specify attendance at the Fibers Conference. Reservations can be made online at [www.francismarioncharleston.com](http://www.francismarioncharleston.com). Use Group Code: Fibers.

### Registration

**Pre-registration Deadline:** September 26  
**Online (payment by credit card only):** [Complete registration process online](#).  
**Fax (credit card only):** [Download and complete the registration form](#) and fax to +1 919 549 8933. Payments by MasterCard, VISA, or American Express are accepted.  
**Mail:** Complete the [registration form](#) and send along with payment to AATCC, PO Box 12215, Research Triangle Park, NC 27709-2215, USA. Make checks payable to AATCC. Checks must be in US dollars and drawn on a US bank.

Pre-registrants will receive confirmations. After September 26, register on site (increased fees will apply). Badges and conference materials may be picked up at the Fiber Conference Registration Desk on the Mezzanine/Meeting Level of the Francis Marion Hotel. A conference badge is required to enter all the sessions and exhibits.

### Cancellation/Refund Policy

Cancellation requests may be faxed, emailed, or mailed to AATCC, PO Box 12215, Research Triangle Park, NC 27709-2215, USA; fax +1 919 549 8933; nicholk@aatcc.org. Requests received in writing by October 3 will be refunded, minus a US\$75 administrative fee.

