13th Annual International TANDEC Nonwovens Conference

NEW DEVELOPMENTS IN NONWOVENS

UT Conference Center
The University of Tennessee, Knoxville
November 18~20, 2003
ABOUT THE CONFERENCE...

The 13th Annual International TANDEC Nonwovens Conference will be held at UT Conference Center, Knoxville, Tennessee, November 18-20, 2003. It will focus on several exciting areas of the nonwovens industry and technology, including:

1. New Developments and Technology in Nonwovens;
2. Innovations in Spunbond and Meltblown Technology;
3. Nonwoven Composites and New Applications in Nonwovens;
4. Filtration and Protective Clothing in Nonwovens;
5. Fundamental Research in Nonwovens.

You will receive concise and practical information on new nonwoven products and development, and gain a firm understanding of the latest technological advances in meltblowing, spunbonding and related processes.

TANDEC Conferences feature a broad cross section of speakers, who combine the best aspects of industry, academia, and the consulting sphere. Professionals in nonwovens R & D, marketing, production, academia, government and management will benefit by attending this conference. This annual event also provides opportunities to meet key technical and business leaders in nonwovens and textiles from around the world. For additional conference information please meet us in cyberspace at: http://tancon.utk.edu/

TANDEC TOUR (November 20, 2003, Thursday, 2:00 pm to 4:00 pm)

- 24-inch Reicofil® Bicomponent Melt Blowing Line
- One meter Reicofil® 2 Spunbond Line
- 20-inch Accurate Melt Blowing Line
- 6-inch Research Melt Blowing Line
- TANDEC Fabric Testing Facilities and more…

Walking distance from the Hilton and the Holiday Inn. Map will be provided. Parking voucher will also be prepared for those who drive.

TANDEC-Textiles and Nonwovens Development Center
1321 White Avenue
Knoxville, TN 37996 (865-974-6298)

SPONSORED BY
TANDEC, The University of Tennessee, http://tandec.utk.edu/
ExxonMobil Chemical, http://www.exxonmobil.com/
Hills Inc., http://www.hillsinc.net/
REICOFIL® Technology
from Reifenhäuser

The Extrusioneers

Innovation is a driving force that creates value. The development of the REICOFIL® Technology such as Spinnbonding and Composite Systems, Bico Technology and Meltable Systems is our contribution to the success of nonwovens products all over the world. The most important potential of our family-owned company is the brain power of our employees. Their know-how and experience provide the basis of successful solutions for our customers and for ourselves.

Reifenhäuser
The Extrusioneers

REIFENHÄUSER GmbH & Co. KG Maschinenfabrik
Spicher Straße 46 - 48 · D-51399 Insheim / Germany
Telephone +49 (0) 22 41 / 401-0 · Telefax +49 (0) 22 41 / 401 79
Mail: info@reifenhaeuser.com · Internet: www.reifenhaeuser.com
Tuesday November 18, 2003

8:00 a.m. Welcome Address by Dr. Billie Collier, Interim Associate Vice President for Research and Director of TANDEC, The University of Tennessee, Knoxville

8:10 a.m. Greeting by Dr. Dong Zhang, Conference Chairman

Session 1. New Developments and Technology in Nonwovens
Session Chair: Dr. C. Y. Cheng, ExxonMobil Chemical

8:15 am - 8:40 am Innovations of 3-D Structure Nonwovens
Ronald L. Smorada, VersaCore Industrial Corp., Kennett Square, PA

8:40 am - 9:05 am Harvesting Better Bananas with Agriban™ Barriers
Christy Steele, PGI Nonwovens, Mooresville, NC

9:05 am - 9:30 am Hydrogen, Fuel Cells — What are the Prospects for New Nonwoven and Textile Fiber Applications?
W. John McCulloch, Consultant Nonwovens/Melt Blowing Industry, Austin, TX and John Hagewood, Hills Inc. W. Melbourne, FL

9:30 am - 9:45 am Questions and Discussion

9:45 am - 10:15 am Coffee Break

10:15 am - 10:40 am Faces and Places In the Nonwovens Industry
Karen Bitz, Nonwovens Industry, Ramsey, NJ

10:40 am - 11:05am Filtration Characteristics of Nonwoven Geotextiles with Municipal Wastewater
M. H. Akram, Texas Tech University, Lubbock, TX

11:05 am - 11:30 am The Expanding Roll of Foam-based Chemical Applications
Christoph W. Aurich, Gaston Systems, Inc., Stanley, NC

11:30 am -11:45 am Questions and Discussion

11:45 am - 2:00 pm Lunch Break (on your own)
Biax-Fiberfilm Corporation offers products and services in the melt blown and stretching arena. In the past 28 years Biax has provided their customers with superior value, reduced energy and lower labor costs.

Supplier of:
- High performance turnkey and pilot MB systems
- Bi-Component MB systems
- Gapless modular dies
- Film/Web Stretching Machines
- Solution Spinning Technologies
- R & D Projects

Biax-Fiberfilm Corporation
N992 Quality Drive – Suite B
Greenville, WI 54942-8635

Tel: 920/757-9000
Fax: 920/757-9082
www.biax-fiberfilm.com
Tuesday November 18, 2003

Session 2. Innovations in Spunbond and Meltblown Technology
   Session Chair: Dr. Bryan Haynes – Kimberly-Clark Corporation

2:00 pm - 2:25 pm
REICOFIL® 4 Technology – Technology for Non-Hygienic Applications
Hans Georg Geus, Reifenhäuser GmbH & Co. Maschinenfabrik, Germany

2:25 pm - 2:50 pm
Bi-component Spunbond Die Technology 2003
Ed McNally, Nordson Fiber Systems, Dawsonville, GA

2:50 pm - 3:15 pm
The Design and Capability of ASON Spunbond Pilot Line
Fumin Lu, Asonneumag Engineering Inc., Fort Lauderdale, FL

3:15 pm - 3:30 pm Questions and Discussion

3:30 pm - 3:55 pm Coffee Break

3:55 pm - 4:20 pm
Extrusion of High Melt Flow Rate Resins
C. Y. Cheng, ExxonMobil Chemical Co., Baytown, TX

4:20 pm - 4:45 pm
Rheology of Polypropylenes Melt Blowing Grades
John Collier, Chemical Engineering, The University of Tennessee

4:45 pm - 5:10 pm
New Generation of Metallocene Based Melt Blown Resin
G.C. Richeson, ExxonMobil Chemical Co., Baytown, TX

5:10 pm - 5:25 pm Questions and Discussion

5:25 pm - 5:40 pm Break

5:40 pm - 7:00 pm
Poster Session at UT Conference Center, Atrium
   Session Chair: Galen Richeson, EXXONMOBIL Chemical

5:40 pm - 7:30 pm
Reception at UT Conference Center, Atrium
Join The High Tech Revolution...

**Spunbond**

25 Islands-In-A-Sea
2 Micron diameter fibers

**Meltblown**

100 holes per inch = 0.16 gph/min

### World Leader In Spinning Technology

Hills, Inc. is a thirty two year old company devoted to the design, development, and manufacture of machinery and technology for the synthetic fiber industry.

For More Information, please visit our website or contact us at:

7785 ELLIS ROAD
W. MELBOURNE, FL 32904
Phone 321-724-2370
Fax 321-676-7635
www.hillsinc.net
sales@hillsinc.net
Wednesday, November 19, 2003

Session 3. Nonwoven Composites and New Applications in Nonwovens
   Session Chair: Dr. Larry Wadsworth – The University of Tennessee

8:00 am - 8:25 am
 **Lyocell Stabilized Nonwoven Composites**
Ioan I. Negulescu, Louisiana State University, Baton Rouge, LA

8:25 am - 8:50 am
 **Effects of Melt-blown Processing Conditions on the Physical Properties of Polypropylene(PP)/Nano Fumed Silica Nano-composite Fabrics**
B.G. AHN, Korea Institute of Ceramic Eng. & Tech., Seoul 153-801, Korea

8:50 am - 9:15 am
 **Composite Materials for Inflatable Membrane Structures**
Nonwoven Composites in Nature and Technology
Edgar Stach, College of Architecture and Design, The University of Tennessee

9:15 am - 9:30 am Questions and Discussion

9:30 am - 10:00 am Coffee Break

10:00 am - 10:25 am
 **Specialty Polyolefin Polymer for Elastic Nonwoven Applications**
S. Srinivas, ExxonMobil Chemical Co., Baytown, TX

10:25 am - 10:50 am
 **Quality Management of Nonwovens with Vision Inspection**
Werner F. Goeckel, Lasor Systronics Inc., Norcross, GA

10:50 am - 11:15 am
 **Bicomponent Melt Blown Technologies Today**
Ron (Rongguo) Zhao, Biax Fiberfilm Corporation, Greenville, WI

11:15am – 11:40am
 **A Laser Instrument For On- and Off-line Sizing of Nonwoven Fibers**
Amir Naqwi, Powerscope Incorporated, Minneapolis, MN

11:40 am - 12:00 pm Questions and Discussion

12:00 pm - 2:00 pm Lunch Break (on your own)

12:05 pm - 1:45 pm Luncheon Meeting of Corporate TANDEC Members
(TANDEC Members and Invitees Only) UT Conference Center 4th Floor
TANDEC
— Textiles and Nonwovens Development Center

Offers unique capabilities in:
- Fundamental studies on textiles and Nonwovens
- Advanced research on meltblowing, spunbonding and product applications
- Line rental and technical services
- Testing services
- Tandec Membership
- Annual TANDEC Nonwovens Conference

1321 White Ave. Knoxville, TN 37996, USA
Tel: 865-974-6298    Fax: 865-974-3580
E-mail: tandec@utk.edu
URL: http://tandec.utk.edu

Over 200 CFS® Systems are Applying Chemicals to Substrates Via Foam

The Future of Chemical Application

Gaston Systems, Inc.
200 South Main Street
Stanley, NC 28164-2011 USA
Tel: 704-263-6000    Fax: 704-263-0954
Email: gastonsys@aol.com
Wednesday, November 19, 2003

Session 4. Filtration and Protective Clothing in Nonwovens
Session Chair: Mr. David Nelson, 3M

2:00 pm - 2:25 pm
Residential Filter Trends
Kyung-Ju Choi, AAF International, Louisville, KY

2:25 pm - 2:50 pm
Flow Modeling for Nonwoven Fabrics Applications in Filtration Industry
A. Mukhopadhyay, Fluent Incorporated, Lebanon, NH

2:50 pm - 3:15 pm
Hydrophobic/Hydrophilic Internal Melt Additives for Spunbonded Nonwovens
Bhushan Deshpande, Techmer PM, Clinton, TN

3:15 pm - 3:35 pm Questions and Discussion

3:35 pm - 4:00 pm Coffee Break

4:00 pm - 4:25 pm
Effect of Carbon Loading and Patterned Electrospun Layers on Protective Fabric Performance Factors
Heidi L. Schreuder-Gibson, U.S. Army Natick Soldier Center, Natick, MA

4:25 pm - 4:50 pm
Comparative Study of Activated Carbon Nonwovens
Jonathan Y. Chen, Louisiana State University, Baton Rouge, LA

4:50 pm - 5:15pm
New Hydrophilic Additives Providing Durable Wetable Properties to Polyolefin Fibers
Hui H. Chin, Ciba Specialty Chemicals, Tarrytown, NY

5:15 pm - 5:30pm Questions and Discussion

5:30 pm Adjourn

7:00 pm - 9:00 pm
TANDEC Conference Banquet
Banquet Speech (8:00pm - 9:00pm)
Roland Connelly, Sr., President of AATCC and Director Textile Marketing of GretagMacbeth, “Use of Color Communication to Shorten Supply Chain Times” at Hilton Hotel Ballroom
501 West Church Ave, SW, Knoxville, TN 37902 (865-523-2300)
Thursday, November 20, 2003

Session 5. Fundamental Research in Nonwovens
Session Chair: Dr. Billie Collier, The University of Tennessee

8:00 am - 8:25 am
Investigation of Meltblown Microfiber and Electrospun Nanofiber Fabrics Treated with a One Atmosphere Uniform Glow Discharge Plasma (OAUGDP–)
J. Reece Roth, Plasma Sciences Lab, University of Tennessee, Knoxville, TN

8:25 am - 8:50 am
Polymer Degradation During Melt Blowing Processing
John Collier, Chemical Engineering, University of Tennessee, Knoxville, TN

8:50 am – 9:15 am
A New Look at Shot Formation in Melt Blown Webs
Mancil Milligan, Mechanical, Aerospace and Biomedical Eng., University of Tennessee, Knoxville, TN

9:15 am - 9:35 am  Questions and Discussion

9:35 am - 10:00 am  Coffee Break

10:00 am - 10:25 am
Advanced Liquid Porosimetry and TRI/AutoPorosimeter
Ilya Tyomkin, TRI/Princeton, Princeton, NJ

10:25 am - 10:50 am
The Influence of Processing Conditions on the Structure of Melt Blown Webs
Randall R. Bresee, Materials and Science Eng. (MSE), University of Tennessee, Knoxville, TN

10:50 am - 11:15 am
Control of Polymer Distribution during Melt Blowing of Bicomponent Polypropylene/Poly (Ethylene Terephthalate)
Larry C. Wadsworth, Dept. of MSE, University of Tennessee, Knoxville, TN

11:15 am – 11:40pm
Effect of Processing Conditions on Spunbonded Metallocene PP Nonwovens
Gajanan Bhat, Dept. of MSE, University of Tennessee, Knoxville, TN

11:40 pm – 12:00pm Questions and Discussion

12:00 pm - 2:00 pm  Lunch on your own

2:00 pm-4:00 pm TANDEC Tour
Correlation between Process Parameters and Demique® Non-woven Web Properties
Atul Dahiya, Dept. of MSE, University of Tennessee, Knoxville, TN

Potential Possibilities of Splitting Bico MB Fibers – A Review
Yanbo Liu, Dept. of MSE, University of Tennessee, Knoxville, TN

Development of Manufactured Cellulosic Fibers and Microfibers from Wood Pulp
Zuopan Li, Dept. of MSE, University of Tennessee, Knoxville, TN

Changes in Structure and Properties of Bicomponent Meltblown Nonwoven Fabrics after Post Treatment for Fiber Splitting
Yanbo Liu, Dept. of MSE, University of Tennessee, Knoxville, TN

Technologies for Stretchable Nonwoven
Charles Hassenboehler, TANDEC, University of Tennessee, Knoxville, TN

Fiber Splitting Study on Side-by-Side Bicomponent Meltblown Fibers (II) —Selection of Polymer Additives
Jihua Xiao, Dept. of MSE, University of Tennessee, Knoxville, TN

Influence of Heat-Stretching Treatment on Structure and Properties of Bico MB Nonwoven Webs
Yanbo Liu, Dept. of MSE, University of Tennessee, Knoxville, TN

Fiber Splitting Study on Side-by-Side Bicomponent Fibers — Review on Recent Development in Fiber Splitting
Jihua Xiao, Dept. of MSE, University of Tennessee, Knoxville, TN

Electrical Analysis of Vapor Grown Carbon Nanofiber (VGCNF)/ LCP Composites
Shuying Yang, Department of Mechanical Engineering, University of Texas

Frictional properties of woven apparel fabrics
Hua Huang, Textile & Fiber Engineering, Georgia Institute of Technology

(All programs are subject to change at last minute).

For more information on TANDEC conference (registration, accommodations, airline, proceedings, etc.), please visit: http://tancon.utk.edu/
REGISTRATION FORM

13th Annual International TANDEC Nonwovens Conference
Nov. 18 ~ 20, 2003 • University of Tennessee Conference Center
Knoxville • Tennessee • USA

Please Check When Applicable:
____ Individual, Full Conference (before 11/01/03) @$825
____ Individual, Full Conference (after 11/01/03) @$875
____ Co-author or Group Discount (call for details), Full Conference @$600
____ Individual, Per Day@$350
  Please indicate which day: ____ Nov. 18, _____ Nov. 19, _____ Nov. 20
____ Faculty and Government, Full Conference @$350
____ Student, Full Conference @$150
____ Companion Ticket for Dinner @$35/person, $________
____ Additional Book of Papers in CD ROM @$200/copy $________

Name__________________________Title_____________________________
Phone # (______)____________________Fax(______)___________________
Organization_____________________________________________________
Address_________________________________________________________
_______________________________________________________________
E-mail Address____________________________

Total Payment enclosed: $________
(All checks must be made payable to The University of Tennessee)

Method of Payment
___Check enclosed
___Charge to Credit Card #____________________________Exp. Date________
Type of Card: ___Visa ___MC ___Discover

Authorized Signature___________________________

Please return your registration to: TANDEC Conference, UT Conference Center, P.O. Box 2648, Knoxville, TN 37901, USA (Fax: 865-974-0264)
Or go to on-line registration at: http://tancon.utk.edu/online.htm
A Revolutionary Laser Technology for Measurement of Fiber Width or Denier

- Real-time fiber size measurement for research, process development and process control
- Measures fibers online without sampling
- Analyzes fiber webs in seconds
- Built for industrial environments

Powerscope Incorporated
1313 Fifth Street SE
Suite 106B
Minneapolis, MN 55414
Tel: (612) 331-4247
Fax: (612) 623-3928
E-mail: info@powerscopetech.com
Web: www.powerscopetech.com