

# THE FIBER SOCIETY

## Fall 2001 ANNUAL TECHNICAL CONFERENCE

October 30 – November 1, 2001

LAKE TAHOE

**Conference Co-Chairs**  
Ning Pan and You-Lo Hsieh

**Organizing Committee**  
*Subhash Batra*  
*You-Lo Hsieh*  
*Ning Pan*  
*Haig Zeronian*

**Sponsored & Organized by:**  
Division of Textiles & Clothing  
University of California at Davis, California  
College of Agriculture and Environment Sciences  
University of California at Davis, California

### **The Fiber Society Officers**

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Room 3330, Nonwovens Cooperative Research Center  
College of Textiles, North Carolina State University  
Box 8301 or 2401 Research Drive  
Raleigh, NC 27695-8301  
<http://www.fibersociety.org>

**October 20, 2001**

**Monday**

1:00 PM – 5:00 PM Fiber Society Governing Council meeting

7:00 PM – 9:00 PM Early birds reception & registration

**October 30, 2000**

**Tuesday**

7:15 AM Registration

8:15 AM Welcome

Ning Pan

President, The Fiber Society

You-Lo Hsieh

Conference Co- Chair

**SESSION I: FIBER PROPERTIES AND PROCESSING**

8:30 AM CREATIVITY IN THE FIBRE AND TEXTILE INDUSTRIES: PAST LESSONS AND FUTURE PROSPECTS

*John W. S. Hearle*

*Department of Textiles, UMIST, Manchester, UK*

9:15 AM THERMOMECHANICAL AND DIMENSIONAL STABILITY OF TEXTILE MATERIALS

*Ron Postle*

*University of New South Wales, Sydney, 2052, Australia*

9:45 AM 3-D NUMERICAL ANALYSIS OF MELT SPINNING: DIRECT PREDICTION OF FIBER SHAPE AND INVERSE DESIGN OF SPINNERET

*Junsuo Sun<sup>1</sup> and Bernard Hocq<sup>2</sup>*

*<sup>1</sup>Fluent Inc., Lebanon, NH; U.S.A.*

*<sup>2</sup>Polyflow s.a., B-1348 Louvain-La-Neuve, Belgium*

**10:15-10:30 AM BREAK**

10:30 AM SCANNING TUNNELING MICROSCOPY STUDY OF RAYON-BASED CARBON FIBERS

*QilinWu<sup>1</sup>, Yang Hu<sup>1</sup>, Gang Li<sup>2</sup>, Ding Pan<sup>1</sup>*

*<sup>1</sup>College of Mat. Sci.& Eng., Donghua University, Shanghai, China*

*<sup>2</sup>Jiaotong University, China*

11:00 AM HYDROGEL SPINNING – TURNING GELS INTO FIBERS AND YARNS

*A.Hawkins, G. Buschle-Diller*

*Textile Engineering Department, Auburn University, Auburn, AL, USA*

11:30 AM STUDY ON THE INDIRECT DISSOLVING PROCESS OF CELLULOSE IN NMMO

*Xuechao Hu, Guangxin Gu and Huili Shao*

*State Key Lab. for Modification of Chemical Fibers and Polymeric Materials,*

*Dong Hua University, Shanghai, China*

## **SESSION II: FABRICS/ASSEMBLIES I**

1:30 PM THE EFFECT OF YARN NON UNIFORMITY ON THE STABILITY OF THE RING-SPINNING BALLON  
*W. Barrie Fraser*  
*School of Mathematics and Statistics, The University of Sydney, New South Wales 2006, Australia*

2:00 PM ANALYSIS OF ENERGY DISSIPATION IN TWISTED FIBER BUNDLES UNDER CYCLIC TENSILE LOADING  
*Y. Qiu<sup>1</sup>, Y. Wang<sup>2</sup>, M. Laton<sup>2</sup> and J.Z. Mi<sup>3</sup>*  
*<sup>1</sup>Department of Textile Engineering, Chemistry and Science, North Carolina State University, Raleigh, NC, USA*  
*<sup>2</sup>School of Textile and Fiber Engineering, Georgia Institute of Technology, Atlanta, GA, USA*  
*<sup>3</sup>Cotton Inc., Cary, NC, USA*

2:30 PM BIREFRINGENCE DISTRIBUTION OF HIGH STRENGTH PET FIBRES MEASURED BY SENARMONT COMPENSATION METHOD  
*Weidong Yu*  
*College of Textiles, Donghua University, Shanghai, China*

**3:00-3:15 PM BREAK**

3:15 PM DEVELOPMENT OF SENSORY ANALYSIS APPLIED TO TEXTILE GOODS  
*Flora Philippe<sup>1</sup>, Laurence Schacher<sup>1</sup>, Dominique Adolphe<sup>1</sup>, Catherine Dacremont<sup>2</sup>*  
*<sup>1</sup>Ecole Nationale Supérieure des Industries Textiles de Mulhouse Laboratoire de Physique et Mécanique Textiles, Rue Alfred Werner- F-68093 MULHOUSE CEDEX, France*  
*<sup>2</sup>Ecole Nationale Supérieure de Biologie Appliquée à la Nutrition et à l'Alimentation, Equipe de recherche, DIJON, France*

3:45 PM INFLUENCE OF MICRO- AND MESO-SCOPIC PROPERTIES ON MACROSCOPIC LEVEL FOR WEFT KNITTED FABRICS  
*Marie-Ange Bueno, Marc Renner and Marie Jose*  
*PACEcole Nationale Supérieure des Industries Textiles de Mulhouse, University of Mulhouse, France*

**4:15 PM ANNUAL MEMBERSHIP BUSINESS MEETING**

**5:00 PM -7:00 PM POSTER SESSION**

October 31, 2000  
Wednesday

**SESSION III: FABRICS/ASSEMBLIES II**

- 8:30 AM      SENSING BY FIBRE GRATING SENSORS INTEGRATED IN SMART TEXTILE STRUCTURES  
*Xiaoming Tao*  
*Institute of Textiles and Clothing, The Hong Kong Polytechnic University, Hong Kong*
- 9:00 AM      THE ELASTIC RESPONSE OF WOVEN KEVLAR FABRIC  
*William E. Warren*  
*Department of Mechanical Engineering, University of New Mexico Albuquerque, NM, USA*
- 9:30 AM      HEAT AND MASS TRANSFER FROM FABRIC-COVERED CYLINDERS: WIND CHILL, BREATHABILITY, AND THERMAL INSULATION  
*Phillip Gibson*  
*AMSSB-RSS-MS, U.S. Army Soldier Systems Center, Natick, MA 01760-5020, USA*
- 10:00 AM     APPLICATIONS OF THE SINGLE FIBER LENGTH DATA FROM AFIS AND FROM COMPUTER SIMULATIONS IN COTTON RESEARCH  
*Xiaoliang "Leon" Cui<sup>1</sup>, Timothy A. Calamari, Jr.<sup>1</sup>, Kearny Q. Robert, Jr.<sup>1</sup>, and Michael D. Watson<sup>2</sup>*  
*<sup>1</sup>USDA, ARS, Southern Regional Research Center, New Orleans, LA, USA*  
*<sup>2</sup>Michael D. Watson, Cotton Incorporated, Raleigh, NC, USA*
- 10:30-10:45 AM      BREAK**
- 10:45 AM     THE SLIT-DAMAGE TOLERANCE OF COATED PLAIN WEAVE FABRIC  
*Thomas A. Godfrey<sup>1</sup> and John N. Rossettos<sup>2</sup>*  
*<sup>1</sup>Natick Soldier Center, U.S. Army Soldier & Biological Chemical Command, Natick, MA 01760-5020, USA*  
*<sup>2</sup>Department of Mechanical, Industrial and Manufacturing Engineering, Northeastern University, Boston, MA 02115, USA*
- 11:15 AM     APPLICATION OF FRACTAL DIMENSION FOR TEXTILES PLANAR HETEROGENEITY CHARACTERIZATION  
*Jiri Militky*  
*Department of Textile Materials, Technical University of Liberec, Czech Republic*
- 11:45 AM     FABRIC FRICTION TESTING – A NEW APPROACH  
*Bernard Miller,*  
*TRI / Princeton, NJ, USA*

## **SESSION IV: FABRICS/ASSEMBLIES III**

- 1:30 PM      A FINITE DIFFERENCE MODEL OF THE DYNAMIC BEHAVIOR OF YARN  
*Daide Maccabruni*  
*Institute for Manufacturing Automation, ETH Zurich*
- 2:00 PM      COMPARATIVE ANALYSIS OF THERMOINSULATION PROPERTIES OF FABRICS MADE OF CELLULOSE FIBERS: NATURAL, MAN MADE.  
*I. Frydrych<sup>1,2</sup>, G. Dziworska<sup>1</sup>, J. Bilka<sup>2</sup>*  
*<sup>1</sup>Institute of Textile Architecture, Lodz, Poland*  
*<sup>2</sup>Technical University of Lodz, Lodz, Poland*
- 2:30 PM      RELATIONSHIP BETWEEN SUGAR PROPERTIES AND STICKINESS MEASUREMENTS  
*E. Hequet<sup>1</sup>, N. Abidi<sup>1</sup>, and M. Watson<sup>2</sup>*  
*<sup>1</sup>International Textile Center, Texas Tech University, Lubbock, TX, USA*  
*<sup>2</sup>Cotton Incorporated, Cary, NC, USA*

## **SECTION V: STUDENT PAPER COMPETITION**

- 3:00 PM      Student Presentation I (to be added)
- 3:30 PM      Student Presentation II (to be added)
- 4:00 PM      Student Presentation III (to be added)
- 6:00 PM      RECEPTION**
- 7:00 PM      DINNER**  
After Dinner Talk on “LAKE TAHOE”  
*Prof. Charles R. Goldman*  
*Director, Lake Tahoe Research Center*  
*UC Davis*

**November 1, 2001**  
**Thursday**

**SESSION VI: GENERAL**

- 8:30 AM DISCRETE SIMULATION FOR CONCEPTION AND DEVELOPMENT OF  
AUTOMATION IN MANUFACTURING  
*Urs Meyer*  
*Institute for Manufacturing Automation, ETH Zurich*
- 9:00 AM INFLUENCE OF FIBERS GEOMETRY ON THE POLYESTER YARNS  
PACKING DENSITY AND POROSITY  
*Dana Kremenáková<sup>1</sup> and Arun Pal Aneja<sup>2</sup>*  
*<sup>1</sup>Department of Textile Structures, Technical University of Liberec, Czech  
Republic*  
*<sup>2</sup>E.I. DuPont, Kinson USA*
- 9:30 AM A STRUCTURED MODEL FOR ENERGETIC AND EXERGETIC ANALYSIS  
OF PRODUCTION SYSTEMS  
*Andrea Weber Marin*  
*Institute for Manufacturing Automation, ETH Zurich*
- 10:00-10:15 AM BREAK**
- 10:15 AM INTERACTION OF A LIQUID WITH PARALLEL FIBRES  
*David Lukas, Jiri Chaloupek*  
*Technical University of Liberec, Liberec, Czech Republic*
- 10:45 AM DURABLE AND REGENERABLE ANTIBACTERIAL AND ANTI-  
CHEMICAL TEXTILES  
*Gang Sun*  
*Division of Textiles and Clothing, University of California, Davis, CA, USA*
- 11:15 AM THE APPLICATION OF AIR-FLOW TO THE TECHNOLOGICAL PROCESS  
OF CHEMICAL FIBER  
*Qiliang Cui, Ailian Xu, Ming Chen*  
*Dong Hua university, Shanghai China*
- 11:45 AM ADJOURN**

## POSTERS:

1. COTTON FIBRES PROPERTIES: GENETIC FACTOR OR GROWING CONDITIONS  
*Rosa Vasconcelos, Teresa Amorim, Fátima S. Lucas*  
*Departamento de Engenharia Têxtil, Universidade do Minho – Escola de Engenharia, Campus de Azurém, 4800 Guimarães, Portugal. Tel. +351-53-510280*
2. USING CLEMENTINE DATA MINING SYSTEM IN THE PROCESS OF ANALYSIS OF COTTON FIBER PROPERTIES  
*Sílvia Dias, Rosa Vasconcelos, Maribel Santos, M<sup>a</sup> Teresa Amorim, Luís Amaral*  
*Universidade do Minho, Campus de Azurém, 4800-058 Guimarães, Portugal*
3. CHANGES OF STATIC AND DYNAMIC DRAPE COEFFICIENTS OF POLYESTER-FIBER WOVEN FABRICS BY ALKALI WEIGHT REDUCTION  
*Mitsuo Matsudaira and Minzhang Yang*  
*Kanazawa University, Kakuma-machi, Kanazawa City, 920-1192, Japan*
4. USING INTERNET DISTRIBUTED COMMUNICATION IN MANAGEMENT A TEXTILE RESEARCH PROJECT  
*Pedro Bastos, Luís Amaral, Maribel Santos, Teresa Amorim, Rosa Vasconcelos, ,*  
*Universidade do Minho, Campus de Azurém, 4800-058 Guimarães, Portugal*
5. INCREASING THE END-USE POTENTIAL OF WOOL FIBERS FROM NATIVE SHEEP BY INCREASING THE FIBER SOFTNESS AND REDUCING THE SHRINKAGE OF COARSE WOOL FIBERS  
*M. Michelle Hartzell-Lawson. Utah State University, Logan, UT, USA*
6. LYOCELL FIBER IN CHINA  
*Xuechao Hu. Dong Hua University, Shanghai, China*
7. COMPUTER SIMULATION OF LYOCELL PROCESS  
*Huili Shao, Ruigang Liu and Xuechao Hu*  
*State Key Lab. for Modification of Chemical Fibers and Polymeric Materials, Dong Hua University, Shanghai, China*
8. AIR-FLOW ANALYSIS FOR BCF TEXTURING TUBE  
*Qiliang Cui, Ailian Xu, Ming Chen,*  
*Dong Hua University, Shanghai China*
9. ANALYSIS OF THE MELT SPINNING PROCESS BY FINITE ELEMENTS  
*Christine Harder, M.Sc., Mechanical Engineering, Institute for Manufacturing Automation, ETH Zurich*
10. COLOR DEPTH OF PET FABRICS WITH NANO SIZED METALLIC POWDER  
*Eun Ji Lee<sup>1</sup>, Sung Hoon Jeong<sup>1</sup>, Beom Soo Lee<sup>2</sup>, Bum Hoon Lee<sup>1</sup> and Jae Yun Jaung<sup>1</sup>*  
*<sup>1</sup>Department of Textile Engineering, Hanyang University, Seoul, Korea*  
*<sup>2</sup>KITECH, Shiheung-si, Gyeonggi-do, Korea*

11. COMPRESSION OF PERPENDICULARLY LAID NONWOVENS WITH LOCAL STRUCTURAL VARIATION  
*Jaroslav Hanuš, Jiří Militky<sup>1</sup>, Arun Pal Aneja<sup>2</sup>*  
*Dept of Nonwovens, <sup>1</sup>Department of Textile Materials, Technical University of Liberec, Czech Republic <sup>2</sup>E.I. DuPont, Kinson USA*
12. HEMP AS A TEXTILE RAW MATERIAL FOR THE COTTON SPINNING PROCESS  
*Marianne Leupin, Institute for Manufacturing Automation, ETH Zurich*
13. INFLUENCE OF THE TEST CONDITIONS ON THE COTTON FIBRES PHYSICS PROPERTIES  
*António Matos, Rosa Vasconcelos, Maribel Santos, Teresa Amorim, Luís Amaral*  
*University of Minho, Campus de Azurém, 4800-058 Guimarães, Portugal*
14. A STUDY OF MULTIFUNCTIONAL MODIFICATIONS OF TEXTILE MATERIALS BY USING SIMULTANEOUS FINISHING AND DYEING PROCESSES  
*Minghua Ma and Gang Sun*  
*Division of Textiles and Clothing, University of California, Davis, CA*
15. FABRIC EVALUATION: AN EXPERIMENT USING FRICTORQ  
*Mário Lima<sup>1</sup>, Rosa Vasconcelos<sup>2</sup>, Lubos Hes<sup>3</sup>, Jorge Martins<sup>1</sup>*  
*<sup>1</sup>Department of Mechanical Engineering, Mechatronics Laboratory*  
*<sup>2</sup>Department of Textile Engineering, University of Minho, School of Engineering, 4800-058 Guimarães, Portugal*  
*<sup>3</sup>Technical University of Liberec, Czech Republic*
16. IMPACT ASSESSMENT IN THE LIFE CYCLE OF TEXTILE COTTON FABRICS  
*Marion Tobler, Institute for Manufacturing Automation, ETH Zurich*
17. EXPERIMENTAL INVESTIGATION OF HIGH SPEED YARN UNWINDING  
*Chantal Spleiss, Institute for Manufacturing Automation, ETH Zurich*
18. A STUDY OF THERMAL STABILITY OF HALAMINE STRUCTURES IN REGENERABLE ANTIBACTERIAL TEXTILES  
*Lei Qian and Gang Sun*  
*Division of Textile and Clothing, University of California, Davis, CA*
19. ON POISSON'S RATIOS OF WOVEN FABRICS  
*Huiyu Sun<sup>1</sup>, Ning Pan<sup>1</sup> and Ron Postle<sup>2</sup>*  
*<sup>1</sup>Division of Textiles and Clothing, University of California, Davis, CA, USA*  
*<sup>2</sup>University of New South Wales, Sydney, Australia*
20. PROPERTIES AND PROCESSING OF PLANT FIBER  
*Chongwen Yu, China Textile University, Shanghai, China*
21. THE PREPARATION AND CHARACTERIZATION OF PP/AG NANOCOMPOSITE FIBER  
*Sang Young Yeo, Sung Hoon Jeong, Seong Geun Oh*  
*Division of Applied Chemical Engineering, Hanyang University, Seoul, Korea*
22. STUDIES ON THE STRUCTURE AND MECHANICAL PROPERTIES OF COMPOSITE YARNS  
*Xiongying Wu<sup>1</sup> and Shanyuan Wang<sup>2</sup>*  
*<sup>1</sup>Shanghai Entry-Exit Inspection and Quarantine Bureau, Shanghai*  
*<sup>2</sup>College of Textiles, Donghua University, Shanghai, China*

23. IDENTIFICATION OF “FREE FORMALDEHYDE” ON DURABLE PRESS FINISHED TEXTILE INTERLININGS  
*Bojana Voncina<sup>1</sup>, Alenka le Marechal<sup>1</sup>, Stane Kuralt<sup>2</sup>, Dominika Bezek<sup>2</sup>*  
<sup>1</sup>*University of Maribor, Textile Department, Smetanova 17, 2000 Maribor, Slovenia,*  
<sup>2</sup>*Tekstilna tovarna ZVEZDA, Savska cesta 46, 4000 Kranj, Slovenia*
24. MEASUREMENTS OF THERMAL INSULATION OF PP NONWOVEN ON THE ALAMBETA DEVICE  
*I. Frydrych<sup>1, 2</sup>, G. Dziworska<sup>1</sup>, D. Piróg<sup>2</sup>*  
<sup>1</sup>*Institute of Textile Architecture, Lodz, Poland*  
<sup>2</sup>*Technical University of Lodz, Lodz, Poland*
25. FAST PARAMETERS RELATED TO THE FACTORS LIKE A KIND OF WEAVES, YARN FIBRES COMPOSITION AND WAY OF FINISHING  
*I. Frydrych<sup>1, 2</sup>, L. Hunter<sup>3</sup>, M. Matusiak<sup>1</sup>, G. Dziworska<sup>1</sup>*  
<sup>1</sup>*Institute of Textile Architecture, Lodz, Poland;*  
<sup>2</sup>*Technical University of Lodz, Lodz, Poland;*  
<sup>3</sup>*CSIR TEX TECH, Port Elizabeth, RPA*
26. UNIVERSAL DYEING OF FABRICS WITH NANO-SIZED PIGMENT PARTICLES  
*Dapeng Li and Gang Sun*  
*Division of Textiles and Clothing, University of California, Davis, CA, USA*
27. EFFECTS OF PROCESSING PARAMETERS ON THE PREPARATION OF CARBON NANOTUBES FILM BY ELECTROPHORETIC DEPOSITION  
*Chunsheng Du and Ning Pan*  
*Division of Textiles and Clothing, University of California, Davis, CA, USA*
28. ERGONOMIC STUDY OF CARPETS: MECHANICAL MODELING AND BIOMECHANICAL & PHYSIOLOGICAL ASSESSMENT OF CARPET COMFORT  
*Jianhua Wu and Ning Pan*  
*Division of Textiles and Clothing, University of California, Davis, CA, USA*
29. A STUDY ON THE CRYSTALLIZATION BEHAVIOR OF POLYTRIMETHYLENE TEREPHTHALATE (PTT)  
*Xiangan Huang and Xiaoyun Liu*  
*State Key Lab. For Modification of Chemical Fibers and Polymer Materials Dong Hua University, Shanghai, China*
30. TRENDS OF AFIS APPLICATION IN INDUSTRY AND RESEARCH  
*I. Frydrych<sup>1, 2</sup>, M. Matusiak<sup>1</sup>*  
<sup>1</sup>*Institute of Textile Architecture, Lodz, Poland*  
<sup>2</sup>*Technical University of Lodz, Lodz, Poland*
31. ANALYSIS OF NETWORK ECONOMIC IN INDUSTRY OF TEXTILE & FASHION  
*X.D. Zhou and Y.M. Li*  
*Fashion College, Shanghai University of Engineering Science, China*
32. CHINA INDUSTRY OF TEXTILE AND CLOTHING DEVELOPED BY INTERNET  
*X. D. Zhou. Fashion College, Shanghai University of Engineering Science, China*

33. Ultra-thin Protein Membrane by Electrospinning and its Application for Enzyme Immobilization  
*Jiangbing Xie and You-Lo Hsieh*  
*Fiber and Polymer Science, University of California, Davis, CA*
34. SURFACE METHYLATION AND COPOLYMERIZATION ON CELLULOSE NANOFIBER,  
*Haiqing Liu and You-Lo Hsieh*  
*Fiber and Polymer Science, University of California, Davis, CA*
35. CELLULOSE SUBSTRATES FUNCTIONALIZED BY DIACYLCHLORIDE (DAC)  
*Yuhong Wang and You-Lo Hsieh*  
*Fiber and Polymer Science, University of California at Davis, Davis, CA*
36. DUAL SENSITIVE HYDROGEL-NONWOVEN COMPOSITES  
*Hong Chen and You-Lo Hsieh*  
*Fiber and Polymer Science, University of California at Davis*
37. DYEING BEHAVIOR OF DIFFERENT COTTON SPECIES  
*Lisa Cram and You-Lo Hsieh*  
*Division of Textiles and Clothing, University of California, Davis, CA*
38. CHARACTERIZATION OF PROTEOLYTIC DIGESTION OF WOOL BY AN EXTRACELLULAR ALKALINE PROTEASE OF *ASPERGILLUS FLAVUS*  
*J. M. Cardamone<sup>1</sup>, K. Sethumadhavan<sup>2</sup>, J. H. Ullah<sup>2</sup>, J.W Cary<sup>2</sup> and D. Bhatnagar<sup>2</sup>*  
<sup>1</sup>*USDA, ARS, Eastern Regional Research Center, Wyndmoor, PA*  
<sup>2</sup>*USDA, ARS, Southern Regional Research Center, New Orleans, LA*
39. NEURAL NETWORKS FOR FABRIC DRAPE PREDICTION  
*Hakan Gokee<sup>1</sup>, Muthu Govindaraj<sup>1</sup>, Andrew Palumbo<sup>1</sup> and Amar Raheja<sup>2</sup>*  
<sup>1</sup>*School of Textiles and Materials Technology, Philadelphia University, Philadelphia, PA, USA*  
<sup>2</sup>*Department of Computer Science, California Polytechnic State University, Pomona, CA, USA*
40. RETROFLECTION OF TRANSPARENT ROUND SECTION FIBER  
*H.Q. Zhang, W.D. Gao and H. Qiu*  
*Institute of Textiles and Garment Design, Southern Yangtze University, Wuxi, Jiangsu, 214036, China*
41. SIMPLE METHOD FOR DETERMINATION OF DRAPE OF WOVEN FABRICS  
*Lubos Hes, Ludmila Fridrichova. Itechnical University of Liberec, Czech Republic*
42. CONTROLLED ABRASIVE WEAR AND FIBRILLATION ON FIBROUS SURFACES  
*Stephane Fontaine. Ecole Nationale Supérieure des Industries Textiles de Mulhouse, University of Mulhouse, France*

43. Modeling and Analysis of Liquid Wetting in Fibrous Assemblies  
*W. ZHONG<sup>1</sup>, X. DING<sup>1</sup> AND Z.L. TANG<sup>2</sup>*  
*<sup>1</sup> College of Textiles, <sup>2</sup> College of Material Science and Engineering,  
China Textile University, Shanghai 200051, P. R. China*
44. Durable and Regenerable Antimicrobial Textile Materials Prepared by a  
Continuous Grafting Process  
*Yuyu Sun and Gang Sun*  
*Division of Textiles and Clothing, University of California, Davis, CA, USA*
45. PHYSICAL PROPERTIES OF LYOCELL FABRICS  
*Majda Sfiligoj Smole, Simona Strnad, Kristina Stakne*  
*Laboratory for Characterization and Processing of Polymers,  
Faculty of Mechanical Engineering, University of Maribor,  
Smetanova 17, SI 2000 Maribor, Slovenia*
46. Characteristics of Shape Memory Polyurethane Films with Different Casting  
Temperatures J. L. Hu<sup>1</sup>, Y. M. Zeng<sup>1</sup>, and H. J. Yan<sup>2</sup>  
*<sup>1</sup> Institute of Textiles and Clothing, The Hong Kong Polytechnic  
University, Hung Hom, Kowloon, Hong Kong*  
*<sup>2</sup> College of Textiles, Donghua University, Shanghai, P.R. of China.*