

# the fiber society

for the advancement of scientific knowledge  
pertaining to fibers, fiber based products, and fibrous materials



[Home](#) | [What's New](#) | [Society Info](#) | [Membership](#) | [Contact](#) | [Future Conferences](#) | [Past Conferences](#) |  
[Officers](#)

---

Spring 1997 Meeting Program  
Mulhouse, France  
Apr. 21-23, 1997

**ADVANCES IN FIBRE AND TEXTILE SCIENCES AND TECHNOLOGY**

| [MON.APR. 21](#) | [TUES. APR. 22](#) | [WED. APR. 23](#) | [THURS. APR 24](#) |

---

## **MONDAY April 21**

Chair for the day: J. W. S. HEARLE

8:00 AM REGISTRATION

8:30 AM WELCOME

9:00 AM SESSION I: **NEW FIBER DEVELOPMENTS**

Session Chair: R. HAGEGE

**Innovation and Co-Marketing as Key as Success Factors for Development:  
the Example of Meryl**

A. Gorius, J. M. Sitar - NYLSTAR (Italy)

**Design, Synthesis and Characterization of a Novel Rigid-Rod "M5" Fiber  
with High Tensile and Compressive Properties**

Sikkema et al. - AKZO (The Netherlands)

**An XRD Study of the New Rigid Polymer Fiber "M5"**

E. A. Klop and M. Lammers - AKZO (The Netherlands)

10:15 - 10:35 AM BREAK

10:35 AM SESSION I continued.

**Structure and Property Development in the Manufacture of "M5" Fiber**

M. Lammers, M. G. Northolt, D. J. Sikkema - AKZO (The Netherlands)

**The Tensile Deformation of Polymer Fibers**

J. M. Baltussen and M. G. Northolt - AKZO (The Netherlands)

**Influence of Microstructure on the Ultraviolet Degradation of Poly(ethylene terephthalate) Fibers**

D. G. Salem and S. B. Ruetsch - TRI, Princeton (USA)

**Application of Ultrasonic and Dynamic Methods for the Analysis of Creep Process in Highly Oriented Fibers**

V. Tiranov and A. Koulitchenko - State University and Tech. & Design, St. Petersburg (Russia)

12:20 - 1:25 PM LUNCH BREAK

1:35 PM SESSION II: COMPOSITES

Session Chair: A. R. BUNSELL

**The Potential of a New Rigid-Rod Polymer Fibre in Advanced Composites**

Van Der Jagt - Delft Univ. of Techn., Aerospace, Structures and Materials (The Netherlands).

**New Technique for Knitting Solid 3D Structures**

E. Sheffer and T Dias - UMIST (GB).

**Elastic Properties of Three-Dimensionally Woven Composites**

A. Saeys - Univ. of Ghent (Belgium); M. W. Dunn and C. M. Pastore, PCT and S. (USA).

**Long term behavior characterization of coated fabrics for architecture membrane under biaxial loading**

P Mauler, G. Nemoz, P. Hamelin - ITF Lyon (France).

**Thermal Behaviour of C/PMR15 Composites: Experiments and Modelling**

Assedat, J. Renard - Ecole des Mines, Centre des Materiaux, Paris (France).

3:35 - 3:55 PM BREAK

3:55 PM SESSION III: NATURAL FIBERS

Session Chair: M. E. CABEÇO SILVA

**The Newest Achievements in Bast Fibre Processing and Applications**

R. Kozłowski - Inst. Natural Fibers (Poland).

**Feasibility Studies for an International Agreement About Cotton Fibre Strength Measurement : Universal Strength Tester**

C. K. Bragg - USDA (USA); J. P Gourelot - CIRAD-CA, Montpellier (France).

**Characterization of Single Fibres by Means of a Profile Meter**

C. Bernardin, P. Lemaire, M. Longree, B. Paquet - CENTEXBEL (Belgium)

5:25 PM END OF DAY SESSION

6:00 PM TOWN HALL RECEPTION

8:30 PM EVENING SESSION:

**K. SLATER: "Future Prospects for Fiber Science"**

---

**TUESDAY April 22**

Chair for the day: B. C. GOSWAMI

**8:30 AM SESSION IV: STRUCTURE DEVELOPMENT DURING  
CONVENTIONAL ORGANIC FIBER PROCESSING.**

Session Chair: M. G. NORTHOLT

**On-line Measurement of Amorphous Orientation in PET fibers**

B. Clauss and W. Oppermann - Deutsche Institut für Textile-und Faserforschung  
Stuttgart DITF, and Institut für Chemiefasern Denkendorf, (Germany)

**The Prediction of Breaks in the PET Melt Spinning Process**

C. King - Wellman, INC (USA).

**Extremal Properties of Fibers: Fibers with Extremal Properties - Theory,  
Practice and Perspective**

K.E. Perepelkin - St Petersburg State University (Russia)

10:10 - 10:30 AM BREAK

10:30 AM SESSION IV continued.

**Tailoring Fiber Friction via Grafted Permanent Lubricants**

Stephen Michielsen - School of Textile and Fiber Engineering, Georgia Institute of  
Technology, Atlanta, (USA).

**A New Contribution to the Viscoelastic Behavior of Polypropylene Fibers**

A.M. Manich - Spanish Council for Scientific Res. (Spain)

M. H. Ussmane - Universidade da Beira Interior (Portugal) and

A. Barella - Real Academia De Ciencias y Artes, Barcelona (Spain).

**X-Ray Diffraction Determination of the Effective Temperature Applied to  
Fibers During Processing**

Luis G. Roldan, Centro de Optica, Universidade da Beira Interior (Portugal).

12:00 - 1:00 PM LUNCH BREAK

1:30 PM SESSION V: STUDENT PAPERS

Session Chair: L. SCHACHER

**Student paper 1 - Student paper 2 - Student paper 3 - Student paper 4**

2:30 - 2:50 PM BREAK

2:50 PM SESSION VI: **TEXTILE FINISHING I**

Session Chair: J. J. PORTER

**Correlations Between the Structure and Dyeing Properties of PET Microfibres**

K. Vu Thi Hong, A. Lallam - ENSITM, Mulhouse (France).

**Study of the Grafting of Fluoro Monomers on Poly (ethylene-terephthalate) Filaments**

M. Louati, A. Elachari, A. Ghenaïm, C. Caze - GEMTEX - ENSAIT - Roubaix (France).

**Color Clustering and Shade Tapering : Newer Methods of Objective Textile Shade Sorting and Colored Inventory Control**

J. R. Aspland - School of Textiles, Fiber and Polymer Sciences, Clemson University (USA).

**Redefining Union Shade Index and New Applications of Digital Image Analysis for the Measurement of Uniform Coloration**

J. M. Cardamone, W. C. Damert, A. Francis, and W N. Marmer - USDA, ARS, Eastern Regional Research Center, Wyndmoor (USA).

4:50 PM END OF DAY SESSION

5:15 PM POSTER SESSION

8:30 PM EVENING SESSION:

**A. ANEJA: Fiber Technologies in the US: Past, Present and Future**

---

**WEDNESDAY April 23**

Chair for the day: R. WULFHORST

8:00 AM SESSION VII: **PROPERTIES OF FIBERS AND TEXTILE STRUCTURES**

Session Chair: J. Y. DREAN

**Mechanical Properties of Polyester Yarns and Fabrics Treated with various Heat Temperatures in Dyeing and Finishing Processes**

S. J. Kim, D. H. Cho and D.H. Chang, School of Textile, Yeungnam Univ. Kyoensgan (Korea), Textile Research Center of Kolon LTD. INC, Kumi (Korea).

**Performance Requirements of Operation Textile - Single Use Materials**

M.J. Arauto, M. E. Cabeco Silva - Universidade do Minho (Portugal).

**New Filter Materials Modified via Plasma-Chemical Treatment**

M. Neznakomova -Technical Univ., Sofia (Bulgaria).

D. Adolphe, J.Y. Drean - ENSITM, Mulhouse (France).

**Investigation Into the Fraunhofer Diffraction Generated by a Ne-He Laser Striking a Sewing Thread**

P G. Schllachenko, Y. N. Vetrova, ST Petersburg University (Russia) and M. S. Bradshaw de Montfort University (England).

9:40 - 9:55 AM BREAK

**9:55 AM SESSION VIII: TRANSFER AND MECHANICAL PROPERTIES OF TEXTILE STRUCTURES**

Session Chair: S. HANSON

**Filtration Flow Modelisation Around and Through Textile Fibres**

G. Berton, D. Sigli Laboratoire de Mecanique et Rheologie - Univ. F Rabelais Tours, (France).

**Recent Advances in Bundle Strength Theories and Their Applications**

M.V. Suh, NCSU (USA).

**Sensorial Metrology of Fabric Surface State after Textile Finishing Process**

M A. Bueno, B. Lamy, P. Viallier, M. Renner - ENSITM, Mulhouse (France).

**Analysis of the Drawing Processes with the Help of the Doppler Effect Laser Anemometry**

C. Cherif, B. Wulfhorst, T T. Phoa - RTHW Aachen (Germany).

**Evaluation of Fibrous Architecture of Non Wovens with the Computer Assisted Microscopy**

I. Krucinska, S. Krucinski - Technical Univ. of Lodz (Poland).

12:00 - 1:00 PM LUNCH BREAK

**1:30 PM SESSION IX: DYNAMIC RESPONSE OF TEXTILE STRUCTURES**

Session Chair: B. POURDEYHIMI

**Computer Modeling of Woven Fabrics**

M. Toney, J. Skelton, Albany International (USA).

**A Test Method for Fabric Bagging**

X. Shang, M. Yao, M. H. Miao, K. Y. Yeung, R. Dingra, Y. Li, Institute of Textile and Clothing, Hong Kong Polytechnic University (Hong Kong).

**Dynamic Analysis on Ring Spinning - With and Without Control Ring**

Q. Zeng, O Corning, Science and Technology Center Granville, (USA) and

T. K. Ghosh, S. K. Batra, College of Textile, NCSU (USA).

**Monte-Carlo Simulation of a New Control Strategy for the Weft Brake on Air-Jet Looms**

L. Vangheluwe, University of Ghent (Belgium).

**Simulation of Manufacturing Processes and Materials Flow in Future High Performance Weaving**

I. Ortner - ETH Zurich (Switzerland).

3:10 - 3:30 PM BREAK

3:30 PM SESSION X: **TEXTILE STRUCTURES**

Session Chair: MOON W. SUH

**The Statistical Structure of Paper and Nonwovens**

R. W. Dent - Albany International (USA)

**Simulation of the Drape Behavior of Fabrics**

H. Rodel, S. Krzywinski, V. Ulbricht, P Fischer, A. Schenk, Insitut fur Textil Dresden (Germany).

**Vibrating Properties of Textiles Surfaces**

R. Postle, E. Aubry, M. Renner - ENSITM, Mulhouse (France).

5:00 PM END OF DAY SESSION

8:30 PM BANQUET

Old Alsatian Village Open-air Museum

---

**THURSDAY April 24**

Chair for the day: M. RENNER

8:00 AM SESSION XI: **PHYSICAL AND MECHANICAL BEHAVIOR OF FIBERS AND TEXTILE STRUCTURES**

Session Chair: J. MILITKI

**Modelling the in-plane Permeability of Woven Geotextiles**

S. Ariadurai , P Potluri - UMIST (UK)

Ian Whyte, Civil and Structural Engineer, UMIST (UK).

**Influence of Fabric Structure and Hairiness on Adhesive Force**

Z. Kus, N. C. Trung - Technical University of Liberec (Czech Republic).

**Humidity - Dependent Air Permeability of Textile Materials**

P. Gibson, A. E. El Said, D. Rivin, M. Charmchi - US Army Natick Research, Development and Engineering Center (USA).

**Finish Uniformity Measurements Using the TRI Dynamic Fluorometer**

S. Wesson, TRI, Princeton (USA).

**A Study on the Deformation Behaviour of Wrap Knitted Textiles**

H. Stumpf, K. Schulte - Technical University Hamburg (Germany)

A. R. Bunsell - Ecole des Mines, Paris (France).

10:05 - 10:20 AM BREAK

10:20 AM SESSION XII: **TEXTILE FINISHING 2**

Session Chair: B. CERCIAT

**Effect of Different Finishes Surface Materials and the Testing Parameters on the Frictional Characteristics of Cotton Knitted Fabrics**

S. S. Ramkumar, S. C. Harlock, C. Iype , D. B. Brook - Leeds University (UK).

**Interactive Fibre-Intumescent Flame Retardant Textiles**

A. R. Horrocks, B. Kandola - Bolton Institute (UK).

**The Reduction in Human Exposure to Pesticide through Selection of Clothing Parameters : Fabric Weight, Chemical Finishing and Fabric Layering**

S. K. Obendorf - Cornell University (USA) and

E. Csiszar, J. Borsa, I. Racz (Bulgaria).

**Assessment of Carpet Wear: An Automatic Objective System**

P Bernard - University of Ghent (Belgium).

12:00 PM CLOSING SESSION: M. RENNER

---

| [MON. APR. 21](#) | [TUES. APR. 21](#) | [WED. APR. 22](#) | [THURS. APR 23](#) |

Spring 1997 Meeting Program

Mulhouse, France

Apr. 21-23, 1997

---