

the fiber society

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



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Fall 1996 Meeting Program Newport, RI Oct. 15-17, 1996

TUESDAY, OCTOBER 15, 1996

8:25 AM OPENING REMARKS

Dr. David Brookstein, President

Dr. Steve Warner, Conference Chairman

8:30 **SESSION I: NATURAL FIBERS**

Moderator: Prof. Kenneth Langley, Univ. Mass., Dartmouth

THE FUNCTIONAL STRUCTURE OF COTTON FIBER

W.R. Goynes and B.F. Ingber, USDA

**COTTON FIBER SELECTION AND BLENDING: CONCEPTS, ALGORITHMS,
APPLICATIONS**

Y.E. El Mogahzy, Auburn University

APPLICATIONS OF ARTIFICIAL NEURAL NETWORKS ON TEXTILE RESEARCH

R. Zhu, Texas Tech

KENAF FIBER PROCESSING AND TEXTILE PRODUCT DEVELOPMENT

G. N. Ramaswamy, Miss. State Univ.

10:30-10:45 AM BREAK

INSIGHTS INTO THE TRANSFORMATION OF WOOLEN FABRIC IN FULLING

AND NAPPING

L. Crothers and T.A. Allain, L.W. Packard Co.

ELECTROKINETIC PHENOMENA STUDIES ON SILK FIBER

Y. Kwok-wing and S. Song-min, Hong Kong Polytechnic Univ.

12:00 NOON LUNCH (on your own)

1:30-3:15 PM **SESSION II: FABRICS**

Moderator, Dr. Bill Bessey, Hoechst-Celanese Corp.

ANALYSIS OF KNIT FABRICS USING IMAGE PROCESSING AND GEOMETRIC MODELS

K. Lane and M.Realff, Georgia Institute of Technology

THE ROLE OF FIBER ARCHITECTURE IN THE PERMEABILITY OF RENITENT COMPOSITES

M. W. Dunn, Philadelphia Col. Textiles and Science

THE DYNAMICS OF FABRIC DRAPE

R. J. Postle, Univ. New S. Wales

NOVEL COMPOSITES BY HOT COMPACTION OF FIBERS

I. M. Ward and P. J. Hine, Univ. of Leeds

3:15-3:30 PM BREAK

FORENSIC APPLICATION OF TEXTILE FIBER ANALYSIS: A SURVEY OF INTERESTING CASES

D. W. Deedrick, FBI Lab: Hair & Fibers Unit

A POISSON MODEL OF NONWOVENS IN COMPRESSION AT HIGH STRESS

M.M. Schoppee, Albany International Research Co.

5:10 PM ANNUAL MEMBERSHIP BUSINESS MEETING

6:00 PM LOBSTER DINNER AT THE PIER RESTAURANT

WEDNESDAY, OCTOBER 16, 1996

7:30 AM REGISTRATION

8:30 AM **SESSION III: RECYCLING FIBERS**

Moderator, Prof. Satish Kumar, Georgia Institute of Technology

FROM BEVERAGE BOTTLES TO FORTREL ECOSPUNÆ: TECHNOLOGICAL
CONSIDERATIONS

D. Sobourin, Wellman, Inc.

CONVERSION OF CARPET WASTE TO THERMOPLASTIC RESINS

S. Kumar, Georgia Institute of Technology

CARPET WASTE FIBERS FOR SOIL REINFORCEMENT IN ROAD
CONSTRUCTION

Y. Wang, Georgia Institute of Technology

PHASE TRANSFER CATALYZED DEPOLYMERIZATION FOR RECYCLING PET
AND NYLON

M.B. Polk, Georgia Institute of Technology

10:30 - 10:45 AM BREAK

10:45 AM **SESSION IV: MARINE APPLICATIONS OF TEXTILES**

COMPLIANT REINFORCED HOSE AND CABLES FOR OCEANOGRAPHIC
APPLICATIONS

W. Paul, Woods Hole Oceanographic Institution

WEAR AND FATIGUE OF MOORING LINES: NYLON VS. POLYESTER

S. Backer and J. Chen, MIT

12:00 - 1:30 PM LUNCH ON YOUR OWN

1:30 - 2:35 PM SESSION V: STUDENT PAPERS

Moderator: Dr. Behnam Pourdeyhimi, Georgia Institute of Technology

**CONVECTIVE AND DIFFUSIVE ENERGY AND MASS TRANSFER IN A
HYGROSCOPIC POROUS TEXTILE**

Phil Gibson, U. Mass.

NEW CONSTITUTIVE EQUATIONS FOR ORIENTABLE POLYMER MELTS

Celine Almonacil, Georgia Institute of Technology

**THERMORHEOLOGICAL CONSEQUENCES OF CRYSTALLINE PHASE
CROSSLINKING IN POLYAMIDE FIBERS**

Shalini Thadani, Georgia Institute of Technology

2:35-3:15 PM FIBER SOCIETY AWARD PAPER

**MICROSTRUCTURE DEVELOPMENT DURING HOT DRAWING OF
POLYETHYLENE TEREPHTHALATE AND POLYETHYLENE NAPHTHALATE**

David R. Salem, TRI/Princeton

3:15-6:00 PM TIME ON YOUR OWN TO EXPLORE NEWPORT

6:00 PM RECEPTION AND POSTER SESSION

Chair - Prof. Mary Lynn Realf, Georgia Institute of Technology

7:00 PM BANQUET AT VIKING INN

HONORARY MEMBERSHIP RECIPIENTS

Robin Dent

John B. Lawson

John Skelton

THURSDAY, OCTOBER 17, 1996

8:00-10:15 AM SESSION VI: STRUCTURE AND PROPERTIES OF FIBERS

Moderator: Philip M. Cunniff. US Army RD&E Labs

DEVELOPMENTS IN ELECTRICALLY CONDUCTIVE FIBERS FROM
POLYANILINE BLENDS

A.P. Chacko and R. V. Gregory, Clemson Univ.

HEAT RESISTANT PROPERTIES OF POLY(P-PHENYLENE-2,6-
BENZOBISOXAZOLE) FIBER

T. Kuroki T. Hokadoh, K. Yabuki, Toyobo Res. Inst., Toyobo Co., Ltd

DEVELOPMENT OF HIGH PERFORMANCE POLY(VINYL ALCOHOL) FIBERS

Q. Zheng and R. Morgan. Michigan State Univ.

POLY (TRIMETHYLENE TEREPHTHALATE) - A NEW FIBER'S CHEMISTRY AND
PROPERTIES

H. Chuah, Shell Chemical Co.

MOLECULAR MODELING OF INTERPHASES IN FIBERS

S.A. Fossey, US Army Natick RD & E Labs

10:15-10:30 am BREAK

MOLECULAR MODELING OF POLYMERIC FIBER MECHANICAL PROPERTIES

P.M. Wilson, J.G. Gassner, R. Kovar, et al., Foster Miller, Inc.

FIBER INITIAL MODULUS AS A FUNCTION OF FIBER LENGTH

N. Pan, H.C. Chen, J. Thompson, M.K. Inglesby, et al., Univ. California, Davis

SINGLE FIBER ACOUSTIC EMISSION AND TENSILE PROPERTIES OF COTTON
YARNS

Y. Velu, M. Ellison, J. Dai, C.D. Rogers, Clemson University

SINGLE FIBER SYNCHROTON X-RAY DIFFRACTION

B. Chu, SUNY Stony Brook

12:30 PM ADJOURN

PARTIAL LIST OF POSTERS

TORSIONAL PROPERTIES OF STRUCTURE-PROPERTY RELATIONSHIPS IN PET MONOFILAMENTS

S. Goa, M. Ellison, M. McCord, Clemson and NC State Univ.

THE EFFECT OF SPINNING METHOD ON THERMAL-CONTACT AND THERMAL-INSULATION PROPERTIES OF COTTON KNITS

R.M. Vasconcelos and L. Hes, Minho Univ.

MIRAFLEXÆ FIBER - A BICOMPONENT INORGANIC FIBER DELIVERING A NEW LEVEL OF PERFORMANCE

S.L. Eikleberry, G.D. Lamb, D.G. Miller, W.W. Lincoln, Owens Corning

A STUDY OF THE EFFECT OF PLASMA TREATMENT ON THE DYEING PROPERTIES OF WOOL FIBER

C.W. Kan, K. Chan, C.W.M. Yuen & M.H. Miao, Hong Kong Polytechnic Univ.

EFFECTIVE FACTORS ON YARN TENSION IN YARN-FORMING ZONE OF FRICTION SPINNING

A.A. Marati, F. Konda, M. Okamura, E. Marui, Gifu Univ.

EFFECT OF ATMOSPHERIC MOISTURE ON COTTON FIBER STRENGTH MEASUREMENTS

H.H. Ramey, Jr. and J.L. Knowlton, USDA

MACROSCOPY OF TEXTILES WITH SEM

L. Barish, Albany International Research Co.

CHAOTIC MIXING IN EXTRUSION-BASED MELT SPINNING OF FIBERS

B.L. Gomillion, M.S. Ellison, Clemson Univ.

SPINNING FLEXIBILITY

R.M. Vasconcelos, M. Lima, Minho Univ.

[GO TO FALL 1996 MEETING ABSTRACTS](#)

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