



Symposium Program (subject to change)

Monday, September 10

07:15 - 08:15 Breakfast

8:00 - 12:00 **J1 & J2 - Welcome and Plenary Session: What It Takes to Commercialize an Innovation**
Ellington Ballroom (Joint with ISCST)

"Commercialization of Innovation at 3M"

Mr. Tony Clinch, Technical Director, Corporate Process Research Laboratory, 3M

"Overview of Innovation Programs at NSF"

Dr Babu DasGupta, Program Director, Industrial and University Cooperative (I/UCRC) and
Directorate for Engineering Industrial Innovation, NSF

"Innovating and Implementing Die Coating Technology Globally"

Dr. Luigi Sartor, VP of Process Technology, Avery Dennison

"Technology Innovation: Get Creative or Go Home!"

Mr. Terry L. Stout, Director, Industry Collaborations and Affiliated Licenses, Georgia Tech Research
Corporation

"Commercializing an Emerging Technology for an Emerging Market: How Hard Can It Be?"

Dr. Kurt Schroder, NovaCentrix

12:00 - 1:30 Lunch - Overlook

1:30 - 3:00 **ACF1 - Fluid and Solid Mechanics of Coating, Printing**
Mercer Ballroom

Session Chair: **David Vital**, FPInnovations

"Coating Models for an Analysis of Cracking Behavior Between Folded Paper and Creased Board"

Christophe Barbier, Karlstad University
Peter Rättö, **Joanna Hornatowska**, Innventia

"Modeling of Lateral Thickness Variation in a Liquid Curtain with Edge Guide"

Yingfeng Shen, **Annaleena Kokko**, VTT Technical Research Centre of Finland

"Prediction of Forces on Paper During Half Tone Dot Printing"

Harrison Gates, **Douglas W. Bousfield**, University of Maine, Orono

3:00 - 3:30 Break

3:30 - 5:00 **ACF2 - Novel Paper Coatings**
Mercer Ballroom

Session Chair: **Joachim Schoelkopf**, Omya Development, AG

"Conductive Surfaces on Coated Papers by Flexographical Printing"

Dimitar Valtakari, **Roger Bollström**, **Martti Toivakka**, **Jarkko J. Saarinen**, Abo Akademi University, Finland
Finland, **Mikko Tuominen**, **Hannu Teisala**, **Jurkka Kuusipalo**, Tampere University of Technology, Finland
Jun Uozumi, **Jarkko J. Saarinen**, Hokkai-Gakuen University, Sapporo, Japan



Symposium Program (subject to change)

"The Effects of Coating Structure and Water-Holding Capacity on the Oxygen-Scavenging Capacity of Enzymes Embedded in the Coating Layer"

K. Johansson, C. Johansson, L. Järnström, *Karlstad University, Karlstad, Sweden*
H. Christophliemk, *Tampere University of Technology, Tampere, Finland*
L. J. Jönsson, *Umeå University, Umeå, Sweden*

"Development of Biocompatible Flexible Films with Very High Barriers Properties Against Water, Grease and Gases Using Smart Reacto-Chromatogenic Nanoparticles"

Camélia Stinga, Daniel Samain, *BT3 Technologies*, **David Guérin**, *CTP, Domaine universitaire*

5:00 - 6:30 J3 - Poster Session (*Joint with ISCST*)
Ellington Ballroom Salon C

Tuesday, September 11

7:15 - 8:15 Breakfast

8:15 - 11:30 J4 - Mechanics of Printing (*Joint with ISCST*)
Ellington Ballroom

Session Chairs: **Mikhail Pekurovsky**, *3M Company*, **Satish Kumar**, *University of Minnesota*

"Thin-Film Models of Liquid Displacement on Chemically Patterned Surfaces for Lithographic Printing Processes"

S. K. Kalpathy, L. F. Francis, S. Kumar, *University of Minnesota*

"Dewetting Flow by Inter-Surface Force during Hydrophobic Patterning"

K. Miyamoto, *Fuji Film Corporation*

"Controlled Destabilization of Liquid Coatings on Partially Wetting Substrates using Laminar Air-jets"

C. W. J. Berendsen, J. C. H. Zeegers, G. C. F. L. Kruis, M. Riepen and A. A. Darhuber
Eindhoven University of Technology

"Short Time Spreading and Wetting of Offset Printing Liquids on Model Calcium Carbonate Coating Structures"

H. Koivula, M. Toivakka and P. Gane
Abo Akademi University, Alto University and Omya Development AG

"Web Tension Formation and Web Deformation in Printing Process"

M. Parola, J. Sorvari and J. Ketoja, *VTT Technical Research Centre of Finland*

"Motion and Arrest Shape of Liquid on Cold Solid Targets"

F. Tavakoli and H. P. Kavehpour, *University of California, Los Angeles*

"The Dynamics of Three-Dimensional Liquid Bridges with Pinned and Moving Contact Lines"

S. Dodds, M.S. Carvalho and S. Kumar, *University of Minnesota and PUC-Rio*

"Liquid Transfer in Gravure Printing Processes: A New Numerical Approach to Study the Effect of Cavity Shape"

D. Campana and M. S. Carvalho, *PUC-Rio*



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"Reduced-order Modeling Techniques for Understanding Printing and Coating"

S. A. Roberts, K. Tjiptowidjojo and P. R. Schunk, Sandia National Lab and University of New Mexico

J5 - New and Emerging Coating Process Technologies (Joint with ISCST)
(Program TBD)

11:45 - 01:15 Lunch - Overlook

1:15 - 2:15 Poster Session (Joint with ISCST) - Ellington Ballroom Salon C

1:45 - 3:15 ACF3 - Coating Structure Analysis

Mercer Ballroom

Session Chair: **Prakash Malla**, Thiele Kaolin

"Contact Angle and Related Measurements-Insights into Paper Surface Characterization"

Arne Krolle, Paper coating, BYK Chemie, **Wolfgang Bauer**, Graz University of Technology

"Comparative Study of Coating Structural Characteristics for Spray and MSP Coated Papers"

Ailee Ho, Ning Yan, University of Toronto

"Characterization of Thin Pigment Coating Layers Produced by Foam Coating"

Eija Kenttä, Karita Kinnunen, Tuomo Hjelt, VTT Technical Research Centre of Finland

3:15 - 3:45 Break

3:45 - 5:15 ACF4 - Drying and Heat Transfer Fundamentals

Mercer Ballroom

Session Chair: **Tony Lyons**, Imerys Pigments, Inc.

"Liquid Retention in Porous Coatings: Effect of Pore Geometry and Material Interactions on Drying Efficiency"

Philip M. Gerstner¹, Hai Zhang, Petri Ronkainen, Patrick A.C. Gane², Aalto University, Aalto, Finland

¹ University of Plymouth, Plymouth, UK

² Omya Development, AG

"Elucidating the Mechanisms of Liquid and Vapour Transport During the Drying of Porous Coatings"

J. Songok, M. Toivakka, Abo Akademi, Åbo/Turku, Finland

D. Bousfield, University of Maine, Orono

C. Ridgway, P. Gane¹, Omya Development, AG

¹ Aalto University, Aalto, Finland

" Effects of Coating Formulation on Coating Thermal Properties and Coated Paper Print Quality in Xerography"

Chong Liang, Mascoma Canada Inc.

Ning Yan, University of Toronto, Toronto, Canada

David Vidal, Xuejun Zou, FPInnovations

6:15 - 9:00 pm Advanced Coating Dinner - Rhodes Hall

Meet in Loews Lobby



Symposium Program (subject to change)

Wednesday, September 12

07:15 - 08:15 Breakfast

8:00 - 9:30 ACF5 - Nanotechnology in Paper Coating

Mercer Ballroom

Session Chair: **Peter Hayes**, BASF

"Size-Selective Absorption into Pigmented Coating Structures: Suspension Starch Polymer vs. Nanofibrillar Cellulose "

Cathy J. Ridgway, Patrick A.C. Gane¹, Omya Development AG

¹Aalto University, Aalto, Finland

"The Effects of Nano-fibrillated Cellulose as a Coating Agent for Screen Printing"

Hitomi Hamada, Kenji Tahara, Asuka Uchida, Research Institute, National Printing Bureau of Japan

"Laser Marking of Double Coated Board"

Anthony Hiorns, Janet Preston, Imerys Minerals Ltd

Jon Morgan, Lee Metters, Domino UK

9:30 - 10:00 Break

10:00 - 11:30 ACF6 - Binder Technology

Mercer Ballroom

Session Chair: **John Roper**, Dow Chemical USA

"Binder Depletion During the Coating Process and its Influence on Coating Failure – a Detailed Analysis of the IGT Dry Pick Test"

J.S.Preston, J.C.Husband, S.Booth, Imerys Minerals Ltd

"ATR-IR Spectroscopy for Studying the Effect of Drying on Binder Migration"

Ritwik Chattopadhyay, Douglas.W.Bousfield, Carl.P.Tripp, University of Maine, Orono

"Coating Microstructures: Binder Distributions"

C. Dahlström and T. Uesaka, Mid Sweden University, Sundsvall, Sweden

11:30 - 12:30 ACF7 - Commercialization Summary: Future Products and Research

Mercer Ballroom

Session Chairs: **Douglas W. Bousfield**, University of Maine, Orono, **Rajan Iyer**, BASF

12:30 - 1:30 TAPPI Advanced Coating Fundamentals Common Interest Group Meeting (CIG)

Mercer Ballroom