<table>
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<th>Session 1 - Opening Session and Keynote Address</th>
<th>Authors</th>
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<tr>
<td>Session Chair: Reinhard Sangl, PTS</td>
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<tr>
<td>1.1 Natural Systems for Bio-Inspired Designs: an Introduction to the Physics of Coloured Appearances in the Biological World</td>
<td>Dr. Peter Vukusic, Associate Professor in Natural Photonics and Bioinspiration at the University of Exeter School of</td>
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**Monday, October 11**  
12:00-13:00  

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<th>Session 2 - Poster Session</th>
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<td>Session Chair: Reinhard Sangl, PTS</td>
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<tr>
<td>2.1 Sealant Resins Based on Ethylene Copolymers Containing Biosourced Modifiers</td>
<td>Donna Visioli and J C Chen, Dupont Co.</td>
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<tr>
<td>2.2 Microstructure Formation on Paper Using Inkjet Coating</td>
<td>Kazutomo Dougome, Toshiharu Enomae and Akira Isogai, University of Tokyo</td>
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<tr>
<td>2.3 Determining a Size Distribution-Defined Particle Aspect Ratio for Platy and Rod-Like Coating Particles</td>
<td>Daniel Gantenbein, Joachim Schoelkopf, Patrick Gane and Peter Matthews, Omya</td>
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<tr>
<td>2.4 Starch Nanocrystals for Ecoefficient Barrier Coating: Influence of Formulation &amp; Process Parameters</td>
<td>D. Le Corre, Julien Bras, A. Dufresne, Grenoble</td>
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<tr>
<td>2.5 Control Interfacial Properties in Paper Surface</td>
<td>Arne Krolle, BYK-Chemie GmbH</td>
</tr>
<tr>
<td>9.2 Fabrication of Particulated Model Surfaces with Controlled Roughness Using Different Deposition Methods</td>
<td>Petra Hansson and Agne Swerin, YKI; Lisa Skedung, Per Claesson and Mark Rutland, YKI, Royal Institute of Technology; Esben Thormann, Royal Institute of Technology; Joachim Schoelkopf, Omya Development AG; Patrick Gane, Omya Devepoment AG, Aalto University</td>
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<tr>
<th>4.3 Optical Properties of Diffuse Coatings under Partially Coherent Illumination</th>
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<td></td>
<td>David Haefner, Sergey Sukhov, Janghwan Bae and Aristide Dogariu, University of Central Florida; Deqiang Ma and Douglas Carter, KaMin LLC</td>
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**Monday, October 11**  
13:00-14:00  

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<th>Session 3 - Good Reasons for Research - Sustainable Components</th>
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<td>Session Chair: John Kettle, VTT</td>
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**Monday, October 11**  
14:00-14:30  

**Break at PTS**  

**Monday, October 11**  
14:30-15:45
3.1 Nano-fibrillated Cellulose as a Coating Agent to Improve Print Quality on Synthetic Fiber Sheet
Hitomi Hamada, National Printing Bureau of Japan; Douglas Bousfield, University of Maine

3.2 Specialty Biobased Monomers and Emulsion Polymers Derived from Starch
Steven Bloembergen, Ian J. McLennan, and John van Leeuwen, ECOSYNTHETIX INC.; Do Ik Lee, Western Michigan University and Scientific Advisor to ECOSYNTHETIX INC.

3.3 Can Starch Be Used in Topcoating?
Dr. Anthony Hiorns, IMERYS Minerals Ltd

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**Monday, October 11**

15:45 - 16:15
Break at PTS

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**Monday, October 11**

16:15 - 17:05

**Session 4 - Advanced Understanding of the Fundamentals of Optical Control**

*Session Chair: Tony Hiorns, Imerys*

4.1 Modelling of Brightness Decrease of Coated Cartonboard as an Effect of Calendaring Microroughness and Effective Refractive Index
Erik Bohlin and Caisa Johansson; Karlstad University; Ludovic Coppel, INNVENTIA;

4.2 Understanding the Particle Size/Shape Ambiguity and its Impact on Optical Responses of Particulate Composites
Thomas Kohlgraf-Owens and Aristide Dogaru, University of Central Florida; Deqiang Ma and Douglas Carter, KaMin LLC

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**Evening on Own**

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**Tuesday, October 12**

9:00-10:15

**Session 5 - Advanced Understanding of Liquid Interactions with the Coating Layer**

*Session Chair: Joachim Schoelkopf, Omya*

5.1 Adjustable Wetting Properties of Paperboard by Liquid Flame Spray Process
Milena Stepien, Jarkko Saarinen and Martti Toivakka, Abo Akademi University; Hannu Teisala, Mikko Tuominen, Jurkka Kuusipalo, Mikko Aromaa and Jyrki M’akel’, Tampere University of C.-M. Tåg, Forest Pilot Center Oy; M. Juuti, VTT Technical Research Centre of Finland; Kimmo Koivunen, Aalto Kimmo Koivunen, Aalto University; Patrick Gane, Aalto University, Omya Development AG

5.2 Liquid Absorption and Evaporation in a Coating Studied by Near Infra-red Probe Spectroscopy

5.3 Optical Reflectance as a Function of Liquid Contact Time and Penetration Depth Distribution in Coatings with Mono and Discretely Bimodal Pore Size Distributions

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**Tuesday, October 12**

10:15-10:45
Break at PTS

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**Tuesday, October 12**

10:45-12:00

**Session 6 - Paper with the Customer - Advanced Fundamentals for Sustainable Barrier Coatings**
Session Chair: Wolfgang Bauer, Institut für Papier-, Zellstoff- und Fasertechnik, Technische Universität Graz

6.1 Effect of Pigment Volume Concentration and Drying Aspects on the Enzyme Activity of Clay Coatings
Kristin Johansson and Lars Järnström, Karlstad University; Hanna Christophiemk, Tampere University of Technology; Leif Jönsson, Umeå University

6.2 Superhydrophobic Paper Coating Containing Non-conventional Clay
Behudin Mesic, Scion; Christian Kugge, CSIRO; Lars Järnström, Karlstad University

6.3 Predictions of Barrier Properties of Filled Polymer Layers
Tyler Seekins and Doug Bousfield, University of Maine; Deqiang Ma and Doug Carter, KaMin LLC

Tuesday, October 12
12:00-13:30
Lunch at Hotel
Tuesday, October 12
13:30-15:10

Session 7 - Paper with the Customer - Advanced Fundamentals for Printing I
Session Chair: Patrice J. Mangin, Centre Intégré en Pâtes et Papiers (CIPP)

7.1 Effective Thermal Conductivity of Liquid Saturated Coatings and their Liquid Vaporisation Behaviour
Philip Gerstner and S. Veikkolainen, Aalto University; Patrick Gane, Aalto University, Omya Development AG

7.2 The Role of Ink Component Diffusion During Absorption into Inkjet Coatings
Taina Lamminmäki, John Kettle and Pasi Puukko, VTT Technical Research Centre of Finland; Cathy Ridgway, Omya Development AG; Patrick Gane, Aalto University, Omya Development AG

7.3 A New Method to Determine the Water Retention of Coating Colours and its Impact on Mottling of Coated Papers
Erich Zeyringer, Sappi Gratkorn

7.4 Influence of Plasma Coating on Fluid Absorption into Pigment-Coated Paper
Maiju Pykönén, Roger Bollström, Martti Toivakka and ja Pedro Fardim, Åbo Akademi University; Kenth Johansson, Ytkemiska Institutet AB; Göran Ström, Innventia AB

Tuesday, October 12
15:10 - 15:40
Break
Tuesday, October 12
15:40 - 17:20

Session 8 - Paper with the Customer - Advanced Fundamentals for Printing II
Session Chair: Nick Triantafillopoulos, OMNOVA Solutions

8.1 Impact of Coating Surface Properties and Print Impression on the Non-uniformity of Offset Prints
Göran Ström and Michael Karathanasis, Innventia AB; Janet Preston, Imerys Minerals Ltd.
8.2 Response to Isopropanol or Ionic/Non-ionic Surfactant in the Competitive Imbibition of Water and Alkane into Calcium Carbonate Structures
Cathy Ridgway and Joachim Schoelkopfa, Omya Development AG; Patrick Gane, Omya Development AG, Aalto University

8.4 Press Conditions Define Heatset Piling Tendency
Eija Kenttä, J. Kiuru, A. Peltosaari, A. Sneck, K. Koivumäki and S. Passoja, VTT Technical Research Centre of Finland

8.5 Influence of Ink Chemistry and Surface Energy on Flexographic Print Quality
Wing Luu and Douglas Bousfield, University of Maine; John Kettle, VTT, Technical Research Centre of Finland; Joseph Aspler, FPIinnovations

Advanced Coating Fundamentals Dinner
Wednesday, October 13
9:00 - 10:15

Session 9 - Advanced Understanding of Coating Layer Structures I
Session Chair: Tony Lyons, Imerys
9.1 Distribution of Latex during Drying in Confined Geometries
Nathanael Black, William Unertl and Douglas Bousfield, University of Maine

9.2 Consolidation of Coating Colors – Experimental Studies
Heikki Pajari and Hanna Koskela, VTT Technical Research Centre of Finland

9.3 Dynamic Aspects of Crack Development in Coating Layers
Peter Rättö and Joanna Hornatowska, Innventia

Wednesday, October 13
10:15 - 10:45

Break

Wednesday, October 13
10:45 - 12:00

Session 10 - Advanced Understanding of Coating Layer Structures II
Session Chair: David Vidal, FPIinnovations
10.1 A Novel Approach to Quantify the Spatial Coating Layer Formation
Johannes Kritzinger and Wolfgang Bauer, Technische Universität Graz; Pekka Salminen, Styron Europe GmbH; Janet Preston, Imerys Min

10.2 Cohesive Versus Adhesive Mechanisms of Failure in Paper Coatings - A Modelling Approach
Parvez Alam and Martti Toivakka, Åbo Akademi University

10.3 Stochastic Scattering Approach to Determine Effective Packing Structure in Diffuse Optical Coatings
Sergey Sukhov, David Haefner and Aristide Dogariu, University of Central Florida; Deqiang Ma and Douglas Carter, KaMin LLC

Wednesday, October 13
12:00 - 13:30

Lunch at Hotel

Wednesday, October 13
13:30 - 14:45

Session 11 - Advanced Understanding of Application Systems - The Curtain Coater
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<tr>
<th>Session Chair: David Guerin, Centre Technique du Papier</th>
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<tr>
<td>11.1 Experimental and Theoretical Study of the Internal Flow in a Curtain Coater</td>
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<tr>
<td>Philippe Martinez, Martine Rueff, David Guerin and Véronique Morin, Domaine Universitaire</td>
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<tr>
<td>11.2 Model Analysis of A Multilayer Curtain Coating</td>
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<tr>
<td>Yingfeng Shen, Annaleena Kokko, Hille Rautkoski and Pasi Puukko, VTT Technical Research Centre of Finland</td>
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<tr>
<td>11.3 Characterisation of Curtain Coating Colours</td>
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<td>Annaleena Kokko, John Kettle, Hille Rautkoski and Yingfeng Shen, VTT Technical Research Centre of Finland</td>
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