INTERNATIONAL PAPER PHYSICS CONFERENCE (IPPC)

Monday, May 6, 2019

1:30PM – 3:00PM **IPPC1: Measuring the Mechanical Response of Fibers, Paper and Board**
Session Chair: Artem Kulachenko, Royal Institute of Technology (KTH)

IPPC1.1	Welcome and Overview	,
IPPC1.2	Transverse viscoelastic properties of pulp fibers investigated by atomic force microscopy	Caterina Czibula, Institute of Physics, Montanuniversitaet Leoben & CD Laboratory for Fiber Swelling and Paper Performance, Graz University of Technology
IPPC1.3	On the torsion method for measurement of out-of-plane shear properties	Mikael Nygårds, RISE - Research Institutes of Sweden
IPPC1.4	Elastic-plastic properties of five paperboards and their moisture dependenc	Gustav Marin, RISE BioEconomy

3:00PM – 3:30PM **Break**

3:30PM – 5:00PM **IPPC2: Moisture Transport in Tissue and Paper**
Session Chair: Ulrich Hirn, Graz University of Technology

IPPC2.1	Measurement of the Dynamics of Fluid Sorption for Tissue Papers	Konrad Olejnik, Lodz University of Technology
IPPC2.2	Mesoscale Liquid Absorption Properties of Towel Papers	D. Steven Keller, Miami University
IPPC2.3	A Novel Transport - Reaction Model for the Estimation of Topochemical Changes During the Pretreatment of Plant Biomass Using 3D X-Ray CT Images and Raman Spectroscopy	Shri Ramaswamy, Bioproducts and Biosystems Engineering
IPPC2.4	Discusion of Water Transport in Paper (importance of different mechanisms with differences in sheet structure)	

Tuesday, May 6, 2019

8:00AM – 10:00AM **IPPC3: Insights into the Mechanical Response of Paper from Modeling**
Session Chair: Sören Östlund, KTH

IPPC3.1	Update on KTH Paperboard Modeling Challenge	,
IPPC3.2	Evaluating the Mechanical Response of Fiber Networks with RVEs	Jaan-Willem Simon, Institute of Applied Mechanics, RWTH Aachen University
IPPC3.3	An Accurate Continuum Model for Paperboard	Kristofer Robertsson, Division of Solid Mechanics, Lund University
IPPC3.4	Paperboard Mechanical Properties at Fracture	Johan Tryding, Tetra Pak
IPPC3.5	The Role of the Fiber and Bonds in Moisture-Induced Deformation of Paper	Artem Kulachenko, Royal Institute of Technology (KTH)
IPPC3.6	Discussion on Modeling of Paper and Paperboard	

10:00AM – 1:30PM **Lunch/Exhibit/NTS**

1:30PM – 3:00PM **IPPC4: Paper as a Stochastic Material**
Session Chair: Jean-Francis Bloch, Grenoble INP

IPPC4.1	Introduction to the Stochastic Nature of Paper	,
IPPC4.2	Exploration of Relationships between Mechanical and Physical Heterogeneity of Paperboards	John Considine, US Forest Service, Forest Products Laboratory
IPPC4.3	Fibre-Level Model of Paper Roughness	William Sampson, University of Manchester
IPPC4.4	Joint Distribution of Local Porosity and Local Tortuosity in Sack Paper	Matthias Neumann, Ulm University

3:00PM – 3:30PM **Break**

3:30PM – 5:00PM **IPPC5: Paper Chemistry to Improve Physical Performance**
Session Chair: Jarmo Kouko, VTT Technical Research Centre of Finland Ltd

IPPC5.1	Thermally Self-Repairing Paper Coatings from Renewable Resources	Markus Biesalski, Technische Universität Darmstadt, Dept. Chemistry, Laboratory for Macromolecular Chemistry & Paper Chemistry
IPPC5.2	On Increasing Wet-web Strength with Adhesive Polymers	Robert Pelton, McMaster University
IPPC5.3	Strength Development During Drying - Possibilities with A Different Wet Strength Testing Approach	Anton Hagman, RISE Bioeconomy - Papermaking and Packaging
IPPC5.4	Inducing Order in Deposited Collagen by Tuning Surface Properties of Paper	Martin Thuo, Iowa State University

Wednesday, May 8, 2019

8:00AM – 10:00AM **IPPC6: Compressive Behavior of Paper, Board and Boxes**
Session Chair: William Sampson, University of Manchester

IPPC6.1	New Insights into the Compressive Strength of Paper & Board	August Brandberg, KTH Royal Institute of Technology
IPPC6.2	Micro Characterization of Z-Resistance of Papers	Jean-Francis Bloch, Grenoble INP
IPPC6.3	Compressive Strength of an in S-Shape Fixed Sample - A New Test for Paper i	Heinz-Joachim Schaffrath, PMV, TU Darmstadt
IPPC6.4	Links Between BCT and Lifetime for Corrugated Boxes	Douglas Coffin, Miami University

	IPPC6.5	Discussion of Performance and Role of Measured Properties	

10:00AM – 10:30AM **Break**

10:30AM – 12:00PM **IPPC7-PF5: Fundamentals of Water Removal**
Session Chair: Warren Batchelor, Monash University

IPPC7-PF5.1	The Effect of Felt-Web Structure Interaction on Press Dryness Variability	Paul Krochak, RISE - Research Institutes of Sweden
IPPC7-PF5.2	Unique Compression Behavior of Foam-Formed Sheets in Wet Pressing and Calendering	Jukka Ketoja, VTT Technical Research Centre of Finland Ltd
IPPC7-PF5.3	Modelling of a Viscoelastic Compression Model for the Simulation of Mechanical Dewatering Processes	Timo Frick, J.M. Voith SE & Co. KG
IPPC7-PF5.4	Fundamental Understanding of Bound Water Removal in Paper Drying Process: M	Zahra Noori, WPI

11:30AM – 1:30PM **Lunch/Exhibit**

1:30PM – 3:00PM **IPPC8: Converting and Formability of Paper and Board**
Session Chair: D. Steven Keller, Miami University

IPPC8.1	Extended Formability of Paperboard by Pre-Compression in Hydro-Based Deep-Drawing	Wilken Franke, Institute for Production Engineering and Forming Machines (TU Darmstadt)
IPPC8.2	Understanding Extensibility of Paper: Role of Fiber Elongation and Fiber Bonding	Jarmo Kouko, VTT Technical Research Centre of Finland Ltd
IPPC8.3	On Characterizing Creasing Severity that Affects Reverse-Side Cracking	Joel Panek, WestRock
IPPC8.4	Deformation Dynamics in Creasing and Folding of Board	Tuomas Turpeinen, VTT Technical Research Centre of Finland Ltd

3:00PM – 3:30PM **Break**

3:30PM – 5:00PM **IPPC9: Role of Fines and Nanocellulose in Paper**
Session Chair: Konrad Olejnik, Lodz University of Technology

IPPC9.1	Primary Fines and their Effect on Specific Refining Energy with Regard to Strength Development for Softwood Kraft Pulp	Daniel Mandlez, Institute for Paper, Pulp and Fibre Technology, Graz University of Technology
IPPC9.2	Combined Effect of the Morphology and Rate of Addition of Fine Cellulosic Materials Produced from Chemical Pulp on Paper Properties	Wolfgang Bauer, Institute of Paper, Pulp and Fibre Technology, Graz University of Technology
IPPC9.3	Effect of Recycling on the Properties of Nanocellulose —Barrier and Mechanical Properties	Warren Batchelor, Monash University
IPPC9.4	Summary of Conference/Closing	