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## PROGRAM

# 6th International Symposium Moisture and Creep Effects on Paper, Board and Containers



*Hosted by USDA Forest Service  
Forest Products Laboratory*

*Sponsored by  
International Paper Physics Committee  
and TAPPI*

For registration information see:  
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Monona Terrace<sup>®</sup> Convention Center  
Madison, Wisconsin  
July 14–15, 2009

Tuesday, July 14, 2009

<i>Time</i>	<i>Event</i>	<i>Presenter</i>	<i>Affiliation</i>	<i>Title</i>
8:30	Welcome—John Considine			
8:45	Keynote—Doug Coffin			
9:30	<b>Chair 1</b>	<b>Benjamin Frank</b>	<b>Corrugated Performance</b>	
9:30		Alfthan, J.	INNVENTIA AB	Failure of corrugated board panels at different loading rates and during creep
9:55		Chalmers, I.	Scion	Crush damage of corrugated board and its effects on cyclic humidity creep performance of boxes
10:20		Hojjaie, B.	Valdosta State University	Effects of Medium Strength Properties and Component Rotation on Corrugated Endurance
10:45	Break			
11:00	<b>Chair 2</b>	<b>JY Zhu</b>	<b>Moisture Flow</b>	
11:00		Glass, S.V.	USDA, Forest Products Laboratory	Essential experiments for advanced modeling of transient moisture flow through corrugated fiberboard components
11:25		Ramarao, B.V.	ESPRI	The Effect of Hysteresis on Moisture Sorption of Paperboard
11:50		Viguié, J.	EFPG - INPG	Analysis of the hygroexpansion of paperboard and small flute corrugated board by digital correlation of images obtained by X-ray microtomography
12:15	Lunch			
13:15	<b>Chair 3</b>	<b>Doug Coffin</b>	<b>Component Behavior</b>	
13:15		Fellers, C.	INNVENTIA AB	Formation and edgewise compressive creep properties
13:40		Considine, J.	USDA, Forest Products Laboratory	Effect of Moisture on Defect Interaction in Paper and Paperboard
14:05		Biancolini, M.E.	Tor Vergata University	Experimental characterisation of paper for corrugated board
14:30	Break			
14:45	<b>Chair 4</b>	<b>Ian Chalmers</b>	<b>Industry Efforts</b>	
14:45		Wikström, A.	Billerud AB	End-user focused creep
15:10		Kekko, P.	Metso Paper	Effects of strain rate on the stress relaxation of wet paper
15:35		Hostetler, R.		Repulpable Water Vapor Barrier Coatings Made Easy
16:00	Day 1—Wrap-up			
17:00	Banquet—Betty Lou Dinner Cruise			

Wednesday, July 15, 2009

9:00	Welcome			
9:15	<b>Chair 5</b>	<b>David Vahey</b>	<b>Other Materials</b>	
9:15		Kretschmann, D.E.	USDA, Forest Products Laboratory	Strength Properties of Low Moisture Content Yellow-Poplar and Southern Pine
9:40		Dumont, P.J.J.	Laboratoire de Génie des Procédés Papetiers	Hygroexpansion of plant-based fiber mats for “green” composites
10:05		Paunonen, S.	NTNU	Measuring and predicting bending stiffness of polyethylene coated multi-layer paperboard
10:30	Break			
10:45	<b>Chair 6</b>	<b>Bandaru V. Ramarao</b>	<b>Modeling &amp; Creep Response</b>	
10:45		Biancolini, M.E.	Tor Vergata University	Corrugated Board Box Design Using full detailed FEM Modeling
11:10		Guo, Y.	Xi’an University of Technology	Mechanical Model on Creep Properties of Double-wall Corrugated Paperboard
11:35		Scott, C.T.	USDA, Forest Products Laboratory	Compression Fatigue Creep of Paperboard
12:00	Lunch			
13:00	<b>Chair 7</b>	<b>M.E. Biancolini</b>	<b>Moisture &amp; Time Response</b>	
13:00		Vahey, D.	USDA, Forest Products Laboratory	Use of Ultrasonic Velocity Measurement to Investigate Moisture-Induced Stress Relaxation in Paper
13:25		Fellers, C.	INNVENTIA AB	Wood fibres do indeed show mechano-sorptive creep.
13:50		Turner, K.	UW-Madison	Hygroexpansivity of Thermally-Aged Papers
14:15	Break			
14:30	Keynote—Wrap-up			
15:15	Conclusion			
17:40	Event—Concert on the Square			