Monday 7 May 2006

Conference Opening
Central Rooms B & C
Welcome – Geoff Covey, Appita President
Conference Opening – Invitation extended to the Hon Peter Beattie, MP, Premier of Queensland
Keynote Address – Invitation extended to Richard Pratt, OAM, Chairman, Visy Industries
Presentation of 2006 Appita L R Benjamin Medal

0915
Session A. Meeting Room 6
1100 Improved barrier properties of double dispersion coated liner
Christian Kugge1, Barbara Johnson2, 3
1Ensis Papro, Australia
2AMP Monash University, Australia
3Visy Pulp and Paper, Australia
Ball milling for fines generation
Nicola Dooley, John Richardson
Ensis Papro, New Zealand

1130 Relationships between ink jet print quality and paper formation and roughness
Steven Loffler, Vanessa Dusting, Nafy Vanderhoek
Ensis Papro, Australia
A novel new non-silicate stabiliser for the efficient bleaching of mechanical pulps – INTEROX SOLV-XO
Rod Seccombe, 1Russell Crouse2, 3Solvay, Belgium

1200 Surface modification of paper: The effect of plasma treatment on sizing properties
Matthias Hider1, 2Steven Loffler1, 2Gerard Murray1, 2Warwick Ravery1, 2Wei Shen1, 2Nafy Vanderhoek3
1Ensis Papro, Australia
2APPI Monash University, Australia
Australian Paper Maryvale, Australia
Project Advance: Australian Paper Maryvale pulp mill upgrade
Rohan Wils

1230 Lunch
R&D - Papermaking
Chemical pulping and recovery
Management Group Seminar
Convenor: Dennis Shore
Themes: Training; Lean Manufacturing
Program in preparation

1330 Do laboratory wet-end formers 'deliver the goods'? A critique of two locally-developed devices
Geoff Covey, Roger Canty
Covey Consulting, Australia
Impregnation of finely divided wood materials from Scots pine
Risto Korpinen1, 2Hieth Holthin1, 2Bruno Lönnerberg1
1Åbo Akademi University, Finland
2UPM-Kymmene Research Center, Finland

1400 Image analysis technology opens a new perspective on paper formation
Annti Paavola
Honeywell Automation and Control
Solutions, Finland

1430 Non-contact profilometry as a tool for surface characterisation
J V Ward, Karen Hands, Nafy Vanderhoek
Ensis Papro, Australia
NIR (near infrared) based liquor analysers in the pulpging and recovery area
Markka Mustonen, Russell Hodges, 1Joe Luszti1
1Comark Systems, USA
2Russell Hodges Ltd, USA

1500 Afternoon tea
Papermaking
Non-wood fibres
Engineering
Z-direction properties

1530 Paper machine design for improving sheet stability and runnability through the dryer section
Giancarlo Gianflore1, 2PMT Italia, Italy
A universal delignification kinetic model for chemical pulping of non-wood materials
Vinh Q Dang, Loi Nguyen
APPI Monash University, Australia

1600 Leading fabric technology – Forming a quality sheet for life
Carl Taylor
Voith Paper Fabrics, China
Fibre morphology and papermaking properties of tropical bamboos
Nawarat Nitsorarat, Raimo Malinen
Asian Institute of Technology, Thailand

1630 Rebuild of packaging grade Bel-bonds
Vaughn Wildfong, Jean-Marc Boudreau
Johnson Foils, USA
Comparison of fines from Reed pulp with fines from Eucalyptus or Pine
Tao Liu1, Yin Xuefeng2, Kevin Hodgson3, Moua Nazhad4
1Asian Institute of Technology, Thailand
2University of Washington, USA

1700 Evening
After session drinks in the Exhibition (5.00 – 6.00 pm)
Welcome Function at SeaWorld (meet in Exhibition at 6.30 pm)

The Appita Asia Symposium - Non-wood fibre – 2010 and beyond: Prospects for non-wood paper production in Asia Pacific' will be held in conjunction with the Conference on TUESDAY 8 MAY.
A separate fee will be payable and Symposium Delegates will have catering breaks in the Exhibition.
<table>
<thead>
<tr>
<th>Time</th>
<th>Session A. Meeting Room 6</th>
<th>Session B. Meeting Room 7</th>
<th>Industry Innovations Meeting Room 8</th>
<th>International Paper Physics Conference Meeting Room 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>0900</td>
<td>How operators can make a difference Paper coating</td>
<td>The use of MD shear stiffness by the torsional stiffness technique to quantify corrugated board properties and box performance</td>
<td>Program in preparation</td>
<td>Simulation of physical properties based on synchrotron X-ray microtomography S Rolland du Roscoat1, M Decours2, C Geindreau3, X Thibault4, JF Bloch5 1European Synchrotron Radiation Facility, France 2INPG, France 3EFPG, France 4CIM, France 5Graz University of Technology, Austria</td>
</tr>
<tr>
<td>0930</td>
<td>Safe attitudes and behaviour at work</td>
<td>Development of a new measurement for board performance</td>
<td></td>
<td>Evaluating a new method to determine layered fibre orientation by sheet splitting 1Ulrich Hose, Wolfgang Bause Graz University of Technology, Austria 2Graz University of Technology, Austria</td>
</tr>
<tr>
<td>1000</td>
<td>Operating a safely guarded paper machine</td>
<td>Electrophor paper filters for high efficiency fine particle capture</td>
<td></td>
<td>Generalised 3-dimensional description of paper formation and structure 1Christophe Mercier1, Martin Dubé1, Sabine Rolland du Roscoat2, Jean-François Bloch3, Patrice Mangin4 1Université du Québec à Trois-Rivières, Canada 2European Synchrotron Radiation Facility, France 3Laboratoire Génie des Procédés Papiers, France</td>
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<tr>
<td>1030</td>
<td>Discussion session</td>
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<tr>
<td>1100</td>
<td>Paper coating analysis by confocal Raman spectroscopy</td>
<td></td>
<td></td>
<td>Bipolar spectral analysis of paper formation by wavelet transformation 1Asif Haman1, Steven Keller2 1State University of New York, USA 2Miami University, USA</td>
</tr>
<tr>
<td>1130</td>
<td>Ultrasonic vibrations and coating irregularity in film transfer coating</td>
<td></td>
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<td>On-line measurements of headbox induced MD aligned streaks 1Claes Holmqvist, Daniel Söderberg STFI-Packforsk, Sweden</td>
</tr>
<tr>
<td>1200</td>
<td>Coating machine rebuilds – A tool to enhance quality and efficiency</td>
<td></td>
<td></td>
<td>Wet draw of paper - varying geometry and boundary conditions 1Torbjörn Wahlinström The Packaging Greenhouse AB, Sweden</td>
</tr>
<tr>
<td>1230</td>
<td>Discussion session</td>
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<tr>
<td>1330</td>
<td>How operators can make a difference Paper technology</td>
<td>Mists of Eucalyptus grandis x Eucalyptus urophylla, Eucalyptus globulus and Pinus taeda wood chips for the production of kraft pulp through Lo-Solids® process</td>
<td>Surface modification of nano-structured calcium silicate for horticultural packaging 1Karen Love1, Ken Wong1, Jim Johnston2 1Ensis Papro, New Zealand 2Australian Paper, Australia</td>
<td>Engineering approach to Page and shear-lag theory for predicting tensile strength of paper 1Bo Wetterlind1, Peter Sandström1, Peter Arnesson1, Per Grudin2 1Mid Sweden University, Sweden 2Mid Sweden University, Sweden 3Prediction of low tail of strength distribution of paper 1Tetsu Uesaka Mid Sweden University</td>
</tr>
<tr>
<td>1400</td>
<td>Machine clothing for coating base sheet improvements</td>
<td>Growth-layer-level microfibril angle, lignin and carbohydrate variation with radial direction, earlywood and latewood, and compression wood content, for a severely bent and a nominally straight ramet of a radiata pine clone</td>
<td></td>
<td>A new method for measuring RBA applied to the Page equation for the tensile strength of paper 1Warren Batchelor1, Paul Kibblewhite1, Jhong He2 1APPI Monash University Australia 2Emis New Zealand</td>
</tr>
<tr>
<td>1430</td>
<td>Advances in polymers for coating applications</td>
<td>Mapping potential handsheet properties within Eucalyptus nitens trees</td>
<td>The use and performance of composite nano-structured calcium silicate phase change materials for thermal buffering in food packaging 1James Johnston1, James Grindrod1, Margaret Dodd1 1Victoria University, New Zealand 2Canessis Network, New Zealand</td>
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<tr>
<td>1500</td>
<td>Discussion session</td>
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<td>Mid Sweden University</td>
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<tr>
<td>1530</td>
<td>How operators can make a difference Paper coating</td>
<td>Wood fibre for future products from pulp 1Paul Kibblewhite1 Ensis Papro, New Zealand</td>
<td>Comparison of membrane processes for paper industry water re-use 1Desmond Richardson, Lasse Blom, Elizabeth Reeves Norske Skog Paper Mills, Australia</td>
<td>Microgels versus linear polymers for paper wet strength – size does matter 1Robert Pelton1, Chuanwei Miao1, Marc Leduc1 1McMaster University, Canada 2BASF, Canada</td>
</tr>
<tr>
<td>1600</td>
<td>Replacement of curtain wax boxes – the challenge for paper converters</td>
<td>Hygroexpansion measurement</td>
<td></td>
<td>Effect of filler clustering on paper properties 1Tomio Higashi, Jari Sirvasto1, Saarela Marjukka1 1KCL, Finland 2Oy Metsä-Botnia Ab, Finland</td>
</tr>
<tr>
<td>1630</td>
<td>Paper coating developments</td>
<td>Measurement of curl using image analysis</td>
<td></td>
<td>International Paper Physics Conference POSTER SESSION 4.30 – 5.30 pm, Exhibition Hall 2Authors of poster papers will be available to discuss their presentations and answer questions</td>
</tr>
<tr>
<td>1700</td>
<td>After session drinks in the Exhibition (5.00 – 6.00 pm)</td>
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<tr>
<td>Time</td>
<td>Session A</td>
<td>Session B</td>
<td>Industry innovations</td>
<td>International Paper Physics Conference</td>
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</table>
| 0900   | Rotors induced pressure variations in a pressure screen  
         Martin Atkins, Michael Walmsley  
         University of Waikato, New Zealand | New Zealand Section  
         Silica modification of Kraft pulp fibre  
         Karen Love, Brian Nicholson, John Lloyd, Robert Franich  
         1Ensis Paper, New Zealand  
         2University of Waikato, New Zealand  
         3Scion, New Zealand | Program in preparation | Factors influencing the attenuation of an ultrasonic signal in a dynamically wetting paper sheet  
         J J Pawlak, Y J Lee, O Rojai, J Showierski | 1Hansol Paper, Korea  
         2NC State University, USA |
| 0930   | Modelling annular entrance effects of a pressure screen operating with a closed rotor  
         Martin Atkins, Michael Walmsley, James Neal  
         University of Waikato, New Zealand | Numerical simulations of pressure pulses produced by a solid core pressure screen rotor  
         Antti Luukonen, Sean Delfel, James A Olsen, Carl Olliver-Gooch, Cameron Pfueger  
         1University of British Columbia, Canada  
         2Advanced Fiber Technologies, Canada | Program in preparation | Experimental imaging of fluid penetration into papers  
         T J Senden, A Bauer, R J Roberts, L Salminen, R Ertl, S Champ, M A Knackstedt  
         Australian National University, Australia |
| 1000   | Numerical simulations of pressure pulses produced by a solid core pressure screen rotor  
         Antti Luukonen, Sean Delfel, James A Olsen, Carl Olliver-Gooch, Cameron Pfueger  
         1University of British Columbia, Canada  
         2Advanced Fiber Technologies, Canada | New Speakers Contest | Program in preparation | Heat and moisture transport in paper and paperboard subjected to a temperature pulse in a hot roll nip  
         Bandaru Ramarao, Sergiy Lavrykov  
         State University of New York, USA |
| 1030   | Morning tea | | | |
| 1100   | How operators can make a difference in Deinking | Appita TechTalk | Winding and finishing | Industry innovations | Moisture interaction and drying  
         Convenor: Ron Dawson, Anley Consulting | Presentation of New Speakers Contest prize and Best Exhibitor plaque | Reeling and winding optimization  
         Stuart R Loewen, B Stevens | Program in preparation | An active thermographic technique for highly resolved heat transport measurements in paper drying  
         Debasish Banerjee, S Schabel, C Garbe, U Schöpf, B Jähne  
         1Darmstadt University of Technology, Germany  
         2University of Heidelberg, Germany | The effect of moisture ratio and drying restraint on the stress relaxation of paper  
         Perti Mäkelä  
         STFI-Packforsk AB, Sweden |
| 1130   | Advances in DIP processes  
         Presenter to be advised, Voith Paper | | | |
| 1200   | Chemistry of deinking  
         Bert Alsheic, Napco Paper Technology | Appita TechTalk | Process control | Industry innovations | Paper and printing  
         Discussion session | 60th Appita Annual General Meeting  
         Presidential report, 2006  
         Financial report, 2006  
         Election of Office Bearers, 2007 – 2009  
         Presentation of 25 year and 40 year membership certificates | Reeling and winding optimization  
         Stuart R Loewen, B Stevens | Program in preparation | Creep of wet paper  
         Jukka Kentojo, Atsuji Tanaka, Jaakko Asikainen, Sanna Lehti  
         KCL Science and Consulting, Finland |
| 1230   | Lunch | | | |
| 1330   | How operators can make a difference in Stock preparation | Appita TechTalk | Industry innovations | Paper and printing  
         Convenor: Ron Dawson, Anley Consulting | Program in preparation | Simultaneous quantification of local paper mass distribution and print details  
         Gary Chinga, Kristin Syverud  
         Paper and Fibre Research Institute, Norway |
| 1400   | Advances in recovered paper screening and cleaning  
         Brian Rees, Kadant Lamort | | | |
| 1430   | New pulping techniques for recovered paper  
         Presenter to be advised, Metso Paper | | | |
| 1500   | Afternoon tea | Stock preparation | Process control/Wet end chemistry | Industry innovations | Board mechanical properties  
         Colloquium | | | |
| 1530   | Contaminant removal by centrifugal cleaners  
         Geoff Covey  
         Covey Consulting Pty Ltd, Australia | Process control/Wet end chemistry | Industry innovations | Simulation of delamination effects in the scoring and folding of paperboard: II  
         Parametric studies of delamination  
         Doewon Choi, Sergiy Lavrykov, B V Ramarao  
         1Hercules Incorporated, USA  
         2State University of New York, USA  
         3Forming performance of liquid board packages; corner fold development  
         Ulf Nyman, Anders Magnusson, Matti Ristimäe  
         1Lund University, Sweden  
         2Tetrapak, Sweden  
         Investigation on multi-layer paperboard for structural application  
         Julius Schönwälder, Kees van Kranenburg, Jan Rots  
         Delft University of Technology, The Netherlands | Program in preparation | 1Hansol Paper, Korea  
         2NC State University, USA |
| 1600   | New skills in gap clearance measurements in low-consistency refiners  
         Ruben Bordin, J C Roux, J F Bloch  
         EFPP - INPG, France | | | |
| 1630   | Mechanism of pitch adsorption on a dextran surface  
         Gil Garnier  
         APPi Monash University, Australia | | | |
| 1700   | Evening | Annual Dinner at Movie World | | | |
# International Paper Physics Conference
## Meeting Room 5
### Paper mechanical properties III

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>0900</td>
<td>The influence of grammage on tensile properties of paper</td>
</tr>
<tr>
<td>0930</td>
<td>An investigation of strength variations in paper containing a sharp notch</td>
</tr>
<tr>
<td>1000</td>
<td>Effects of buckling and crack propagation in paper - A stochastic modeling experiment</td>
</tr>
<tr>
<td>1030</td>
<td>Morning tea</td>
</tr>
<tr>
<td>1100</td>
<td>Stripping of corrugated board in half tone flexo post-printing</td>
</tr>
<tr>
<td>1130</td>
<td>The effect of fibre orientation streaks on out-of-plane instabilities in paper</td>
</tr>
<tr>
<td>1200</td>
<td>Paper wrinkling arising from the application and drying of water-based inks</td>
</tr>
<tr>
<td>1230</td>
<td>Lunch</td>
</tr>
<tr>
<td>1500</td>
<td>Afternoon tea</td>
</tr>
<tr>
<td>1530</td>
<td>Effect of relative humidity cycle start point and amplitude on the mechano-sorptive creep of containerboard</td>
</tr>
<tr>
<td>1600</td>
<td>Transverse shear measurement for corrugated board and its significance</td>
</tr>
<tr>
<td>1630</td>
<td>Mechanical properties of paper and their relation to packaging performance</td>
</tr>
<tr>
<td>1700</td>
<td>International Paper Physics Conference Dinner at Crowne Plaza Hotel</td>
</tr>
</tbody>
</table>

### Poster Papers

A poster session will be held in the Exhibition hall from 4:30 to 5:30 pm on Tuesday 8 May. Authors of poster papers will be available to discuss their presentations and answer questions.

- **New annual plant (Industrial Grass)** as raw material for pulp and paper industry.
- **A computational fluid dynamics modeling and experimental study of the mixing process for the dispersion of synthetic fibres in wet琰 forming.**
- **Dimensional stability of eucalypt pulp and paper.** The effect of fiber wall thickness distribution of the raw material.
- **Biaxial testing equipment for paper material.**
- **A computational fluid dynamics modeling and experimental study of the mixing process for the dispersion of synthetic fibres in wet琰 forming.**
- **Effect of free growth rate on papermaking fibre properties.**
- **Effect of refining on bleached and unbleached kraft pulp rheology.**
- **Measurements of surface topography of free jet.**
- **Effect of tree growth rate on papermaking fibre properties.**
- **A new method for the measurement of longitudinal fibre flexibility.**
- **Biaxial testing equipment for paper material.**
- **Effect of relative humidity cycle start point and amplitude on the mechano-sorptive creep of containerboard.**
- **Transverse shear measurement for corrugated board and its significance.**
- **Mechanical properties of paper and their relation to packaging performance.**
- **Application of the advanced complete paper material description in shear slitting processes.**
- **Effect of refining on bleached and unbleached kraft pulp rheology.**
- **Measurements of surface topography of free jet.**
- **Effect of free growth rate on papermaking fibre properties.**
- **Effect of tree growth rate on papermaking fibre properties.**
- **A new method for the measurement of longitudinal fibre flexibility.**
- **Biaxial testing equipment for paper material.**
- **Effect of relative humidity cycle start point and amplitude on the mechano-sorptive creep of containerboard.**
- **Transverse shear measurement for corrugated board and its significance.**
- **Mechanical properties of paper and their relation to packaging performance.**
- **Application of the advanced complete paper material description in shear slitting processes.**

- **New annual plant (Industrial Grass)** as raw material for pulp and paper industry.
- **A computational fluid dynamics modeling and experimental study of the mixing process for the dispersion of synthetic fibres in wet琰 forming.**
- **Dimensional stability of eucalypt pulp and paper.** The effect of fiber wall thickness distribution of the raw material.
- **Biaxial testing equipment for paper material.**
- **A computational fluid dynamics modeling and experimental study of the mixing process for the dispersion of synthetic fibres in wet琰 forming.**
- **Dimensional stability of eucalypt pulp and paper.** The effect of fiber wall thickness distribution of the raw material.
- **Biaxial testing equipment for paper material.**