Innovations in Engineering, Pulping & Environmental Conference

Access to Networks
- Latest Technology Applications
- Hot Topic Breakfasts
- Trade Fair Exhibits
- New Technology Showcase
- Keynote by Miles Drake, CTO/Sr. VP of Technology, Weyerhauser
- Tutorials Including Bleach Plant Workshop
- Roundtable Discussions
- Attend a Committee Meeting and be on the Ground Floor of the Proposed New Bioenergy Committee

Access to Knowledge
- Learn how to deal with bleach chemical safety from a panel of experts
- Attend a track on preventing corrosion of pulp and paper equipment
- Learn about the benefits of generating green power
- Attend a special pre-conference course on the basics of bleach plant technologies
- Learn the basics of the biorefinery concept and hear about the latest developments
- Learn about the latest developments in non-wood processes
- Learn how to improve pulping and bleaching processing
- Attend workshops on boiler water treatment and process simulation
- Participate in a special sustainability panel session

For detailed conference program information go to www.tappi.org/07epe
New Technology Showcase
Monday, October 22, 10:30 am to Noon
Learn about new and developing technologies in the pulp and paper industry and meet face-to-face with representatives involved in implementing them at the mill production level. Catch up on the latest products and services now entering the marketplace, and explore how they can help you and your company meet goals and solve problems. If you’re interested in presenting a topic in the New Technology Showcase, please contact Tammi Campbell of TAPPI at +1.770.209.7405. There are a limited number of 8-minute sales presentation slots available only to contracted trade fair exhibitors on a first-come, first-served basis.

TechQuest Seminar
Monday, October 22, 2007 – 6:30 to 8:00am
Separate Registration required – go to www.metsopaper.com/techquest to register
Designed to keep you current on the latest Metso technology, TechQuest is an in-depth problem solving seminar focusing on your most difficult fiber and papermaking challenges. To register, go to www.metsopaper.com/techquest.

Networking Receptions
Cap off your day at the conference on Sunday and Monday at a reception, see old friends and meet new ones as you browse the Trade Fair area and enjoy drinks and refreshments.

Trade Fair Area – new for EPE!
Throughout the conference, the Trade Fair will be the place to learn about our industry’s latest products and services and meet face-to-face with key technology suppliers. This is a great opportunity to compare products and technologies side-by-side, ask questions and learn how these innovations can help you be more efficient, productive and cost-effective.

Hot Topics Breakfasts
Tuesday, October 23 and Wednesday, October 24, 6:45 to 8:30am
Join fellow conference attendees for a complimentary continental breakfast and stimulating discussion in a roundtable format. Both Hot Topic breakfasts will focus on current operating issues and are open to all registered attendees. In early September, a list of hot topics will be e-mailed to all pre-Registrants, allowing you to sign-up ahead of time for topics of your choice. In addition sign-up boards will be posted on-site for late registrants. Each topic will be hosted by a facilitator who is a leading expert in the subject matter.

Keynote Address: Innovation and Sustainability for the Forest Based Industries
Monday, October 22, 8:30 to 10:00am
Miles Drake, CTO / Sr. VP of Technology, Weyerhaeuser
We face major global challenges to meet the needs of today with renewable energy and materials. The forest based industries have the potential to bring unique resources and competencies to meet these challenges through profitable business solutions. Major innovation across industries, value chain, government, and academia will be required to bring the solutions to life.

Bleach Plant Workshop
Sunday, October 21, 2007, 8:00 am to 4:00 pm
This one-day workshop will provide participants with a broad, basic understanding of kraft pulp bleaching technology as well as prepare them to derive maximum benefit from the bleaching panels and papers to be presented during the Engineering, Pulping, and Environmental Conference. This workshop is designed for bleach plant operators or engineers, paper company environmental engineers, research, technical sales, and service personnel from paper companies, and chemical or equipment suppliers. It will give attendees a basic understanding of pulp bleaching technology and its implications for pulp properties and environmental management. Enjoy the opportunity to discuss bleach plant operating problems with experts in the field, and walk away from the workshop with information and materials to help you on your job immediately. Please note: A supplemental fee is required (lunch is included). To attend this workshop, you must be registered for the 2007 EPE Conference. See the registration form for more information.

Lunch is Included!
BY POPULAR DEMAND, lunch on Monday and Tuesday in the Trade Fair area is complimentary to registered conference participants. Enjoy a delicious lunch, visit with old friends and meet new ones – and browse through the Trade Fair.

Spouse / Guest Events
During the conference, your spouse or guest can participate in this special program, meet new friends, enjoy entrance into conference receptions, continental breakfasts and optional shopping and sight-seeing. For more information, see page 10 or go online to www.tappi.org/07epe

The 25th Annual Paper Chase 5k Run
Enjoy a little exercise during the conference at the PaperChase, a 5k run / 1.5 mile walk, organized by BE&K. For more information, see page 10.

Sponsorship and Tabletop Opportunities Still Available
Participants at the EPE conference will be looking for the latest technology and new product introductions – make sure your company is there to help them. Put your company front and center to reach the top experts in the field, network with colleagues, peers and customers and create awareness for your latest products and services. But act fast, as trade fair booths and sponsorships are available on a first-come, first-served basis. For more information about booths or sponsorship, please contact Tammi Campbell at +1.770.209.7405 or tcampbell@tappi.org or visit www.tappi.org/07epe
There is nothing else like it. Only TAPPI’s EPE Conference brings the industry’s best selling books right to you. As a conference participant, you can also qualify for a special conference-only discount on the following titles – but only if you pre-order them when you register.

Kraft Recovery Boilers - This comprehensive textbook covers recovery boilers in great depth and pulls together information on combustion, safety, emissions, plugging, and corrosion. Written by a team of industry experts, the text includes a great deal of practical information such as simple tests to pinpoint problems, important observations to help understand issues for particular operations, and “rules-of-thumb” that are generally used in the industry.

List price: $140, TAPPI Member Price: $93, Special Conference-only price: $79 Order code: 0102B064

Industrial Environmental Control - Pulp and Paper Industry, Third Edition - Edited by Allan M. Springer, this totally-revised, comprehensive volume encompasses all of the environmental issues affecting the pulp and paper industry and features 35 chapters with discussion items. Suited for senior-level or graduate courses as well as industrial training programs, experienced industry personnel will find this text useful as a reference for today’s industry practices as well as a resource for planning future operations.

List Price: $93, TAPPI member price: $62, Special Conference-only price: $52 Order code: 0101R296

Paper Machine Steam and Condensate Systems, Fifth Edition - Edited by R. Krumenacker and P. Deutsch, this book covers the basic design, operation, and control of equipment necessary for the proper operation of efficient steam control and condensate removal systems and includes dozens of figures and helpful tables and charts plus a glossary to aid understanding.

List Price: $50, TAPPI member price: $31, Special Conference-only price: $26 Order code: 0101R096

The Pulp and Paper Technology Advanced Workforce Training and Education Series: Volume 1: Pulp Manufacturing This Pulp and Paper Technology book series is a new industry resource for improving the knowledge base of new and incumbent hourly workers. It is the first in a series of resources developed jointly with TAPPI and the community college network (npt)2. Volume 1- Pulp Manufacturing tackles the “how” and “why” of pulp making. Topics include wood fiber fundamentals, overviews of the pulp mill, wood prep, kraft pulping, mechanical pulping, chemical recovery, bleaching and more! This series complements the two-year associate curriculum at (npt)2 community colleges.

List Price: $60, TAPPI member price: $45, Special Conference-only price: $38 Order code: 0101R317

The World of Market Pulp (soft cover) is now available in print and contains more than 460 photos, graphs, and high resolutions SEMs are reproduced. The book highlights 60 global Market Pulps-pulps selected for their distinctive properties, outstanding attributes and ability to represent the wide-range of Market Pulps available in the world. It includes background material about global market pulps: their forest and fiber sources, pulp qualities and how to select market pulps.

List Price: $160, TAPPI member price: $160, Special Conference-only price: $145 Order code: 08WOMPB
# PROGRAM GRID

**Sunday**

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<td>8:00 AM</td>
<td>Breakfast Suggestion</td>
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<td>8:30 AM</td>
<td>Session 1: Bleach Plant Workshop (8:00 AM - 4:00 PM) $50 Supplemental Fee</td>
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**Monday**

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<tr>
<td>8:30 AM</td>
<td>Session 2: Opening Awards and Keynote Address</td>
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<td>9:00 AM</td>
<td>Session 3: State of the Industry Report</td>
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<td>Session 4: Advances in Chemical Pulping</td>
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<td>Session 5: Mill Engineering Panel Session</td>
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<td>Session 6: Improvements in Mechanical Pulping</td>
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<td>Session 7: New Technology Showcase</td>
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<td>Session 16: Advances in ECF Bleaching</td>
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<td>Session 17: Sustainability Update</td>
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<td>Session 18: Measuring the Paper Business</td>
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<td>Session 19: Optimizing Chemical Recovery</td>
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<td>Session 20: Workshop on Lower Furnace Corrosion</td>
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<td>Session 21: Environmental Mgt. - Sustainability Panel Session</td>
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<tr>
<td>8:30 AM</td>
<td>Session 37: Advances in Eucalyptus Pulping</td>
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<td>9:00 AM</td>
<td>Session 38: Advances in Non-Wood Processing - II</td>
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<td>10:00 AM</td>
<td>Session 39: Measurement Techniques for Effective Pulping</td>
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<td>Session 40: Green Power Panel Session</td>
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<td>Session 41: Data Reconciliation</td>
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<td>Session 42: Water Issues</td>
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### Notes:
- All sessions are subject to change without notice.
- All times are local to Atlanta, GA, USA.
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### Notes
- **Pulping-related Session**: Sessions 8, 27, 28, 29, 30, 31, 48, 49, 50, 51
- **Engineering-related Session**: Sessions 9, 10, 11, 12, 13, 14, 15, 32, 33, 34, 35, 36
- **Environmental-related Session**: Sessions 27, 28, 29, 30, 31, 48, 49, 50, 51, 52

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**Session 16:** Sustainability Update
**Session 37:** Non-Wood Corrosion
**Session 40:** Mill Engineering Panel Session
**Session 41:** State of the Industry Report
**Session 42:** Advances in ECF Bleaching
**Session 43:** New Asset Management Approaches
**Session 44:** Non-Wood Corrosion - Reports from the Front Line
**Session 45:** Kraft Liquor Corrosion - Reports from the Front Line
**Session 46:** Current Issues in Air

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### Panels
- **Opening Workshop (8:00 AM - 4:00 PM)** $50 Supplemental Fee
- **Trade Fair Open**: Trade Fair Open
- **Welcome Reception in Trade Fair Area**: Welcome Reception in Trade Fair Area
Sunday, October 21, 2007
8:00 am - 4:00 pm
Session 1: Bleach Plant Workshop
Speaker: Tom McDonough, IPST

Monday, October 22, 2007
6:30 am - 8:00 am
Metso TechQuest Seminar
8:30 am - 10:00 am
Session 2: Opening Awards
Keynote Address: Innovation and Sustainability for the Forest Based Industries, Miles Drake, CTO / Sr. VP of Technology, Weyerhaeuser

10:30 am - Noon
Session 3: State of the Industry Report

10:30 am - Noon
Session 4: Advances in Chemical Pulping
Session Chair: Cal Clark, BE&K Engineering Co.
The Relative Effects of Sulfite, Sulfide, and Hydroxide Concentrations in Mini-Sulfide Sulfite AQ Pulping
Ved Naithani, North Carolina State University
How Does Hydroxyethylidene Diphosphonate (HEDP) Accelerate Kraft Pulping?, Richard Berry, Yujun Sun, and Corrine Luthe, FP Innovations, Paprican

10:30 am – Noon
Session 5: Mill Engineering Panel Session: Challenges Mill Engineers Face Today
Session Chair: Steve Dowe, Jacobs Engineering Group
Panelists:
  • Byron Alvey, Weyerhaeuser
  • Andy Norris, Georgia-Pacific
  • Charlie Gustafso, Jacobs Engineering Group

10:30 am – Noon
Session 6: Improvements in Mechanical Pulping
Session Chair: Steve Robinson, Premier Chemicals
Shive Content Modeling and Simulation in Chemi-Thermo-Mechanical Pulping, Manne Tervaskanto, University of Oulu, Finland
Synergistic Effects Between Chemical Mechanical Pulps and Chemical Pulps From Hardwoods, Eric Xu, Andritz, Inc.
The Study on Contamination Characteristics and Decoloration of CTMP Effluent, Hu Zhijun, South China University of Technology

10:30 – Noon
Session 7: New Technology Showcase
Newest technologies and latest developments in pulping, bleaching, chemical recovery, and the engineering and environmental areas

1:30 pm – 3:00 pm
Session 8: Effect of Fiber Raw Materials on Pulping Processes
Session Chair: Bill Fuller, FRM Consulting
The Effect of Seasonal Variation in Wood Moisture Content on Chip Quality, William Watson and Charles Stephenson, Georgia-Pacific
Effect of Wood Properties on Pulp Yield, David White, IPST @ Georgia Institute of Technology

Evaluation of the SuperBatch Pulping Process for Pinus Taeda, Francides Silva, University of Sao Paulo, and Papel e Celulose Vasconcelos, Klabin Papel e Celulose, Brazil

1:30 pm – 3:00 pm
Session 9: Bleach Plant Safety Panel Session
Session Chair: Tom McDonough, IPST @ Georgia Institute of Technology
Hydrogen Peroxide - An Environmentally Friendly but Dangerous Bleaching Chemical, Alan Rudie, and Peter Hart, MeadWestvaco
Safety Considerations in the use of Chlorate and Chorine Dioxide in Pulp Bleaching Processes, Jim Hopmans, ERCO Technologies
Update on Work Being Done on Chlorate and Chlorine Dioxide by a Subcommittee of AET, Douglas Pryke, AET
Panel Discussion of Bleaching Chemical Safety Procedures and Practices, Panelists:
  • Alan Rudie, USDA Forest Products Lab
  • Jim Hopmans, ERCO Technologies
  • Douglas Pryke, AET
  • Tom McDonough, IPST @ Georgia

1:30 pm – 3:00 pm
Session 10: Wastewater Treatment and Analysis
Session Chair: Michael Foster, EBS Environmental
Changes in Wastewater Pollutant Loading, Diane Hardison, Weyerhaeuser
Nutrient Balances For an Activated Sludge Wastewater Treatment Plant, Lucy Cotter, Ecole Polytechnique De Montreal
Color Removal and Biodegradability Enhancement of Eucalyptus CTMP Effluent by Zero-Valent Iron Method Youming Li, National Engineering Research Center of Papermaking & Pollution

1:30 pm – 5:00 pm
Session 11: New Asset Management Approaches
Session Chair: Jerry Kahn, JK Consulting
The Partnership Organization, Christer Idhammer, IDCON
Managing Assets Using Performance Supervision, Michel Ruel, TOP Control
Machine Cleanliness versus Paper Quality and Uptime, Wade Parke, WP Associates

1:30 pm – 5:00 pm
Session 12: Simulation Software Workshop
The apiMAX System, American Process Inc.

3:30 pm – 5:00 pm
Session 13: Bleaching with Oxygen and Peroxide
Session Chair: Richard Berry, FP Innovations, Paprican
Modern Approaches to Design of Environmentally Benign Stabilizers of Peroxy Compounds in Pulp Bleaching, Reijo Aksela, Kemira Oyj
Effect of Pulp Delignification Degree on Fiber Line Performance and Bleaching Effluent Load, Jorge Colodette, Federal University of Vicosa, Brazil
TAED Activator for Peroxide Bleaching of Recycled Pulp, Jeffery Hsieh, Georgia Institute of Technology
PROGRAM SESSION DETAILS

Tuesday, October 23, 2007
6:45 am – 8:30 am
Session 16: Hot Topics Breakfast
- Group discussions of latest technical/production developments and operating problems
8:30 am – 10:00 am
Session 17: Advances in ECF Bleaching
Session Chair: Jorge Colodette, Federal University of Vicosa, Brazil
- Comparison of Various Hardwood Kraft Pulp Pre-Bleaching Techniques, Dale Nutter, MeadWestvaco
- The Chemistry of Aldehyde-Enhanced Bleaching (AEB), Waleed Wafa Al-Dajini, Zhi-Hua Jiang, Richard Berry, and Barbara van Lierop, FP Innovations, Parican
16-3 - 9:30 am: Optimization of ECF Bleaching of Kraft Pulp—I: Effects of Acid Prehydrolysis on Hardwood Pulp Bleachability, Tom McDonough, IPST
8:30 – 10:00 am
Session 18: Sustainability
Session Chair: Colleen Walker, CPBIS
Jim Frederick, Georgia Institute of Technology
8:30 – 10:00 am
Session 19: Measuring the Paper Business
Session Chair: Colleen Walker, CPBIS
- Financial and Value Metrics Based Performance Evaluation of North American Pulp and Paper Companies and Identification and Adjustment of Deficiencies to Compete in the Global Market Place, Venketa Parthasarathy, Weyerhaeuser
18-3 - 9:30 am: Sustainability Tool for the Paper Production Value Chain, Tiina Pajula, KCL
8:30 am – 10:00 am
Session 20: Optimizing Chemical Recovery
Session Chair: Christopher Dietel, DTE Energy Services / DTE Petcoke, LLC
- Effects of Chloride, Potassium and Sulfate on the Causticizing Reaction in the Kraft Recovery Process, Sona Sacidi, University of Toronto, Pulp & Paper Centre
- Combustion by Design - Practical Kiln Optimization, Richard Manning, Kiln Flame Systems Ltd.
8:30 am – 10:00 am
Session 21: Workshop on Lower Furnace Corrosion—Part I
Session Chair: Doug Singbeil, PAPRICAN
10:30 am – Noon
Session 22: Pretreatments to Enhance Bleaching
Session Chair: Brian Brogdon
- The Effect of Mechanical Pre-Treatment on Strength During Oxygen Delignification of Acacia Kraft Pulp, Jeffery Hsieh, Georgia Institute of Technology
- New Technology Tools Discover Enzyme Products to Enhance Pulp Bleaching, Charles Hancock, Diversa Corp.
- The Effect of Pretreatment on Extractive Removal During Oxygen Delignification, Jeffery Hsieh, Georgia Institute of Technology
10:30 am – Noon
Session 23: Determining the Effects of Wood Pretreatments
Session Chair: Dwight Husband, FutureBridge Consulting
- Acid Prehydrolysis of Wood, Alan Rudie, USDA Forest Products Lab
- Extraction of Hemicelluloses from Aspen Chips and Impact on Subsequent Kraft Pulping, Waleed Wafa Al-Dajani, University of Minnesota
- A Kinetic Study on Kraft Pulping of Hot-Water Extracted Eucalyptus Wood Chips, Liu ShiJie, SUNY ESF
10:30 am – Noon
Session 24: Workshop on Lower Furnace Corrosion-Part II
Session Chair: Doug Singbeil, PAPRICAN
10:30 am – Noon
Session 25: Chemical Recovery/Bio-Energy Opportunities
Session Chair: Tom Grace, T.M. Grace Co.
- Short-Column Ion-Exchange Technologies for Kraft Pulp Mill Chemical Cost Reduction, Jon Foan, NORAM Engineering
10:30 am – Noon
Session 26: Environmental Management - Sustainability Panel
Session Chair: Dale Phenicie, Environmental Affairs Consultant
1:30 pm – 3:00 pm
Session 27: Evaporator Panel Session – Part I
Bandwidth Follow-up (from 2006 Study): Black Liquor Evaporation, Chris Verrill, IP
1:30 pm -3:00 pm
Session 28: Non-Metal Corrosion Issues – Cause and Effect
Session Chair: Randy Nixon, Corrosion Probe
- Bleach Plant Corrosion of Non-Metallic Equipment, Ken Fusee, Corotech
1:30 pm – 3:00 pm
Session 29: Advancing the Biorefinery for Non-Woods
Session Chair: Kristiina Iisa, IPST @ Georgia Institute of Technology
- Potential Synergies and Challenges in Refining
Cellulosic Biomass to Fuels, Chemicals, and Power, Charles Wyman, University of California
Non-Wood Biorefinery Developments Outside of North America, Jairo Lora, GreenValue SA

1:30 pm – 3:00 pm
Session 30: Boiler Water Treatment Workshop
Session Chair: Mark Sergent, IP
Condensate Treatment and System Monitoring and Control, Virginia Durham, Hercules
Recovery Boiler Waterside Inspections, Jim Graham, Buckman Laboratories
Boiler Chemical Cleaning Frequency, Norris Johnson, Hercules

3:00 pm – 5:00 pm
Session 31: Climate Change
Session Chair: Reid Miner, NCASI
Climate Change Policy and Regulatory Developments: Rhea Hale, AF&PA, James Rosser, Forest Products Assn of Canada, and Pertti Laine, Finnish Forest Industries Federation

3:30 pm – 5:00 pm
Session 32: Evaporator Panel Session – Part II
Continuation of Bandwidth Follow-up (from 2006 Study): Black Liquor Evaporation, Tim Patterson, IPST @ Georgia Institute of Technology

3:30 pm – 5:00 pm
Session 33: Boiler Operations
Session Chair: Chris Suggs, Sonoco
Automatic Spout Cleaning, Phil McAllister, Diamond Power International
Control of NOx Emissions from Hog Fuel Boilers, Allan Walsh, Jansen Combustion & Boiler Technology
Induction Heat Tube Extraction, Wade Blaser, Babcock & Wilcox

3:30 pm – 5:00 pm
Session 34: Kraft Liquor Corrosion—Reports from the Front Line
Session Chair: Steve Lukezich, Diamond Power Int.
Corrosion and Stress Corrosion Cracking of Different Duplex Stainless Steels in Pulping Liquors, Ananya Bhattacharya, Graduate Student, Georgia Institute of Technology
Corrosion of Stainless Steel in High Solids Black Liquor, Margaret Gorog, Weyerhaeuser
Cracking of Pin-Studded Carbon Steel Waterwall Boiler Tubes, Joey Kish, FP Innovations, Paprican

3:30 pm – 5:00 pm
Session 35: Advancing the Biorefinery for Wood
Session Chair: Lucian Lucia, NCASI
A Biorefinery Approach: Non-Sulfur Pulping with Partial Lignin Recovery and Conversion, Todd Bolton, SUNY
Evaluation of Wood-Based Biorefinery Options for Pulp and Paper Mills, Theodora Retsina, American Process Inc.

3:30 pm – 5:00 pm
Session 36: Current Issues in Air
Session Chair: Tammy Wyles, Georgia-Pacific

New Source Review Reform—The Challenges Ahead, Tammy Wyles, Georgia-Pacific
Case Study: PSD Permitting for Petcoke Fuel in a Lime Kiln, Phil Cobb, Golder Assoc.

Wednesday, October 24, 2007
6:45 am – 8:30 am
Session 37: Hot Topics Breakfast
Group discussions of latest technical/production developments and operating problems

8:30 am – 10:00 am
Session 38: Advances in Eucalyptus Pulping
Session Chair: Gail Sherson, FP Innovations, Paprican
Mixtures of Eucalyptus Grandis x Eucalyptus Urophylla and Pinus Taeda Wood Chips for the Production of Kraft Pulp using the Lo-Solids Process, Francides Silva, Universidade de Sao Paulo, and Ana Gabriela Monnerat Vota, Carvalho, Vera Sacon, and Eduardo Patelli, Votorantim Celulose e Papel, Brazil
Lo-Solids Kraft Pulping off Eucalyptus Wood
Jose Gomide, Universidade Federal Vicsa, Brazil
Kraft Pulping of Eucalyptus with Anthraquinone, Polysulfide, and Surfactant, Francides Silva, University of Sao Paulo, Brazil

8:30 am – 10:00 am
Session 39: Advances in Non-Wood Processing – Part I
Session Chair: Jairo Lora, Green Value SA
Nonwood Fiber Raw Materials and the Biorefinery, Robert Hurter, HurterConsult Inc.
Complete Hydrolysis of Bamboo Fibers in Formic Acid, Shijie Liu, SUNY ESF
Steam Explosion Pre-treatment on Alkali-Oxygen Pulping of Bamboo, Wikhan Anapanurak, Kasetsart University

8:30 am – 10:00 am
Session 40: Advances in Chemical Recovery
Session Chair: Jim Dickinson, The Babcock & Wilcox Co.
The Solubility of Recovery Boiler Precipitator Ash, Daniel Saturnino, University of Toronto
Process and Economic Impact of Dead Load Chemicals in the Kraft Pulping and Recovery System, Thomas Grace, T.M. Grace Co.
AF&PA Recovery Boiler Program Update. Tom Grant, AF&PA

8:30 am – 10:00 am
Session 41: Details, Details, Details – Specifying Quality into Your Process Plant
Session Chair: Alex Nadezhdin, Norbord
Welding of Duplex Stainless Steels, Ralph Davison, Technical Marketing Resources
Understanding How Changes in Pressure Vessel Codes May Impact Pressure Vessel Performance, Patrick Sullivan, Highlander Engineering Services

8:30 am – 10:00 am
Session 42: Water Issues
Session Chair: Bill Jernigan, Georgia-Pacific
Water Consumption in Pulp Mills, Barry Malmberg, NCASI
2007 Engineering, Pulping & Environmental Conference

PROGRAM SESSION DETAILS

Sheldon Mill Environmental Site Assessment: A Case Study of the Texas Risk-Based Process, Nicole Roy, Abitibi-Consolidated

Identification and Reduction of Juvabione, a Main Constituent of Inhibitory Effects on Ceriodaphnia Dubia Reproduction, in a Pulp and Paper Mill Effluent Using Todomatsu, Abies Sachalinesis, Mast, Hiroshi Araki, Japan Pulp and Paper Research Institute

10:30 am – Noon
Session 43: Advances in Non-Wood Processing –Part II
Session Chair: E. Kendall Pye, Lignol Innovations
Comparison of the Properties of Paper Produced from Empty Fruit Bunches (EBF) Using a Semichemical Process with an OCC Fluting Paper, Alberto Gonzalez, University of Zaragoza

BioRegional MiniMill Technology - Report on UK Industrial Scale Trials, Sue Riddlestone, BioRegional MiniMills UK Ltd

Wastewater Treatment of Papermaking Tobacco Leaf with Anaerobic Granular Sludge, Yi Hou, National Engineering Research Center of Papermaking & Pollution Control, South China University of Technology

Characterization and Evaluation of Dhaichina (Sesbania aculeata) as Papermaking Fiber, M. Sarwar Jahan, D.A. , Nasima Chowdhury, and M. Khalidul Islam

10:30 am – Noon
Session 44: Measurement Techniques for Effective Pulping
Session Chair: Mike Schofield, Hercules

Improved Methods for Measuring Residual Effective Alkali in Kraft Black Liquors - Part 1: Absolute Measurement by Capillary Electrophoresis, Joseph Sullivan, FP Innovations, Paprican

Improved Methods for Measuring Residual Effective Alkali in Kraft Black Liquors - Part 2: Comparison of Titration Methods, Theodore Radiotis, FP Innovations, Paprican

Single Fiber Lignin Distributions Based on the Density Gradient Column Method, Alan Rudie, USDA Forest Products Lab

10:30 am – Noon
Session 45: Green Power Panel Session
Session Chair: Ed Smith, SP Newsprint

A special panel comprised of a green power generator, marketer/purchaser, certifier, and user explore what green power is specifically, its sources, types, RECs, etc., and looks at how the markets for RECs work, what the buyer requires after the sale, what the potential value is, etc.

10:30 – Noon
Session 46: Data Reconciliation

Data Reconciliation 101- Challenges and Benefits, Luc Lapierre, CIPP at UQTR

Mill Information System uses Dynamic Data Reconciliation to Get Accurate Energy Accounting, Larry Wasik, Aurel Systems, Dave Tannar, Catalyst Paper, and Dave Alexander, 3Sigma


10:30 – Noon
Session 47: BART Modeling
Session Chair: Daniel Diehl, Bowater

BART Exemption Modeling for the Pulp and Paper Industry, Steve Marks, Golder Assoc.

Possible Alternative BART Compliance Program, Marc Cone, Maine DEP

BART Control Determinations—Lessons Learned, Sal Mohammad, Golder Assoc.

1:30 pm – 3:00 pm
Session 48: Dealing with Black Liquor
Session Chair: Joe Wilson, Star-North America

Influence of Kraft Black Liquor Components on the Performance of Silicone Foam Control Agents, Sung-Hsuen Chao and Laurent Vermeire, Dow Corning, and Torolf Laxen, SciTech-Service Oy

Improving Washing Efficiencies in the Kraft Pulp Mill with New Defoamer Technology, Philip Hoekstra, Buckman Laboratories

1:30 pm - 3:30 pm
Session 49: Semichemical Processing
Session Chair: Leon Livingstone, Neill & Gunter Ltd.

Condensate Chemistry in NSSC Evaporators, Wynn Douglas and Bett Antes, Smurfit-Stone Container Corp.

1:30 pm – 3:30 pm
Session 50: Improving Pulp Processing
Session Chair: Deni Barton, Hercules

Efficient Use of Low-Temp and Low-Pressure Steam for Heating Different Media by Dynamic Steam Blending, Ludwig Michal, Andritz AG

49-2 - 2:00 pm: No-Load Characterization of a Low-Consistency Disc Refiner for an Effective Application of Refining Theories, Ruben Bordin, Tembec R&D Kraft

1:30 pm – 3:30 pm
Session 51: Advances in Non-Wood Processing - III
Session Chair: Robert Hurter, HurterConsult Inc.

Novel Feedstocks—Future Revolutions in Papermaking?, Keijo Hytonen, Chemopols Oy

Fines Study in Bleached Pulp from Sugar Cane Bagasse, Juan Carlos Sadovnik, PROPAL S.A

The Role of Nonwood Fines Constituents on Pulp and Paper Properties, Paiva Rousu, Lappeenranta University of Technology, Finland

Research on Cotton Bast Pulping Using Alkaline Peroxide BVIS Pulp Method, Hu Zhijun, South China University of Technology

1:30 pm – 3:30 pm
Session 52: Gains in Energy Efficiency
Session Chair: Gregory Burns, MeadWestvaco

A Tool for Simulating Energy Efficient Evaporation Using Excess Heat in Kraft Pulp Mills, Marcus Olsson, Chalmers University of Technology

Energy, Water, and Chemical Savings through Optimization and Improved Control of Existing Equipment, Carol Pullen, Hach Co.


Prevention of Elements Leaching from Coal Ash by Adding Fixation Chemicals, Makoto Iwasaki, Kaori Inoue, and Kazuya Ikeshima, Oji Paper Co.
Discounted Air Travel

**DELTA**

Delta is the official airline for all TAPPI events. For Special Rates, book your flight online at the conference web page: www.tappi.org/07epe. Simply scroll to the bottom of the webpage and click on the Delta Logo.

Discounted Car Rental

Both Hertz and Avis offer discounted car rental rates to PLACE Conference participants.

**AVIS**

Avis offers special discounts off regular rates for PLACE Conference participants. To reserve your car, call 1.800.831.8000 and refer to the code AWD: #U226600.

**Hertz**

Save $5 a day up to $25 off your rental car during the PLACE Conference. This special offer is valid one week before through one week after the September 17-19, 2007 conference dates. Make your reservations on line at www.hertz.com using your CDP# 1752380 and Promotional Code# 105825. Or, call 1.800.654.2210 in the U.S.

Hotel Information

A block of rooms at the Hyatt Regency Jacksonville Riverfront has been reserved at a discounted rate for TAPPI’s 2007 EPE Conference participants.

- Hyatt Regency Jacksonville Riverfront
- 225 Coast Line Drive East
- Jacksonville, FL 32202 USA
- +1.904.588.1234 (International)
- 1.800.223.1234 (US)

To reserve your room, call 800.233.1234 (in the US) or +1.904.588.1234 (International) and be sure to mention your attending the EPE Conference. You can also reserve your room online at: http://jacksonville.hyatt.com/groupbooking/jaxrjtapp2007

Discounted rates are as follows: $135 (single/double) plus applicable tax if your room is reserved no later than Friday, September 28, 2007. Please note: Due to the annual Georgia vs. Florida football game, room rates will start at $379 per night on October 26 and October 27. Please plan your trip accordingly.

Be sure to reserve your room by Friday, September 28, 2007 and mention that you’re attending TAPPI’s 2007 EPE Conference.

Spouse / Guest Program

Why should you register for the Spouse/Guest Program you ask? Because it’s a great place to meet new friends, includes entrance with conference registrant for receptions, a continental breakfast Monday, Tuesday and Wednesday, a special “Welcome to Jacksonville Presentation” Monday morning, a self-guided tour of St. Augustine on Tuesday, the “Traditional My Home Town Gift Exchange” and a group activity on Wednesday. Spouse/Guest Program Registration Fees is $50 if registered by September 21, or $75 onsite. See registration form to sign-up.

To register for the PaperChase, complete the form below and submit it by mail:

Bo Gilbert
BE&K, Inc.
2000 International Park Drive
Birmingham, AL 35243
E-mail: gilbertbo@bek.com • Fax: 205-972-6807

In person: Monday, October 22, 2007, at the conference.

Name: ____________________________________________
Company: _________________________________________
Address: __________________________________________
___________________________________________________
Title: _____________________________________________
Telephone: ________________________________________
City: State: _________________________________________
Zip: _______________________________________________

☑ Yes, sign me up for the PaperChase, October 23, 2007:
My Check for $_____ (Minimum donation is $20), payable to BE&K, Inc. is enclosed.

☑ No, I cannot attend the PaperChase but I have enclosed my check for $________________ (Minimum donation is $20), payable to BE&K, Inc. In consideration of the acceptance of my entry, I do hereby waive and release any rights and claims for damage I may have against all sponsors of the PaperChase Fun Run.

Signature: _________________________________________
Date: ____________________

I will participate in the:
☑ 5k Run/Men ☑ 5k Run/Women ☑ 1.5 mile Walk

My T-Shirt size is:
☑ Large ☑ X-Large ☑ XX-Large
REGISTRATION FORM

2007 TAPPI EPE CONFERENCE
JACKSONVILLE, FLORIDA USA
OCTOBER 21-24, 2007

FIVE EASY WAYS TO REGISTER
1) Mail – TAPPI, P.O. Box 933644, Atlanta, GA 31193-3644, USA
2) Online – go to www.tappi.org/07epe
3) Fax completed registration form by fax to +1.770.209.7206
4) Phone 1.800.332.8686 (US), 1.800.446.9431 (Canada) or +1.770.446.1400 (Worldwide)
5) Wire Transfer – call +1.770.446.1400 for details

GENERAL INFORMATION (Please print or type. Submit a separate form for each attendee, spouse or guest.)

Please circle:  Mr.  Ms.  Mrs.  Dr.  Sr.  Jr.

First Name ___________________________ MI ________ Last Name ___________________________

Company Name __________________________

Address _____________________________________________________________

City __________________________________________ State/Province _______________________

Zip/Postal Code __________________________________________ Country_____________________

Phone __________________________________ Fax _______________________________________

Email _____________________________________________________________________________

REGISTRATION QUESTIONS? Call 1.800.332.8686 (US), 1.800.446.9431 (Canada) or +1.770.446.1400 (Worldwide)

Please mail checks to TAPPI, P.O. Box 933644, Atlanta, GA 31193-3644, USA

Pre-Order New EPE Books

(Open by September 21 to guarantee this special pricing and availability. Circle the book(s) that you would like to order.)

<table>
<thead>
<tr>
<th>Title</th>
<th>Price</th>
</tr>
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<tbody>
<tr>
<td>Kraft Recovery Boilers 0102B064</td>
<td>$79</td>
</tr>
<tr>
<td>Industrial Environmental Control - Pulp and Paper Industry 0101R296</td>
<td>$52</td>
</tr>
<tr>
<td>Paper Machine Steam and Condensate Systems 0101R096</td>
<td>$26</td>
</tr>
<tr>
<td>Pulp and Paper Technology Series: Pulp Manufacturing 0101R317</td>
<td>$38</td>
</tr>
<tr>
<td>The World of Market Pulp - Soft Cover 08VOMPB</td>
<td>$145</td>
</tr>
<tr>
<td>Renew My Membership for an additional 12 months</td>
<td>$174</td>
</tr>
<tr>
<td>Join TAPPI and Save!</td>
<td>$174</td>
</tr>
</tbody>
</table>

TOTAL DUE $ ________________________

*Member discounts are available to members of TAPPI, PIMA and PAPTAC in good standing. To qualify for member discount, please supply your TAPPI Member number above or your PIMA or PAPTAC Member number here.

METHOD OF PAYMENT (All fees must be paid in U.S. Dollars and must accompany registration forms)

Checks: Enclosed is check number _____________________ for the full amount of $ __________.

Please mail checks to TAPPI, P.O. Box 933644, Atlanta, GA 31193-3644, USA

Wire Transfer: $ _______ was wired as payment on ______ (date)

Credit Card # __________________ Exp __________

Signature: ______________________________

Date: _________________________________

REGISTRATION FEE (circle only one) • All fees are in US Dollars.

<table>
<thead>
<tr>
<th>Description</th>
<th>On or Before Sept. 21 2007</th>
<th>After Sept. 21 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member*</td>
<td>$1,100</td>
<td>$1,995</td>
</tr>
<tr>
<td>Non Member</td>
<td>$1,650</td>
<td>$2,995</td>
</tr>
<tr>
<td>Single Day Registration – Member*</td>
<td>$605</td>
<td>$1,095</td>
</tr>
<tr>
<td>Single Day Registration – Non Member</td>
<td>$910</td>
<td>$1,695</td>
</tr>
<tr>
<td>Speaker, Full Conference</td>
<td>$605</td>
<td>$1,095</td>
</tr>
<tr>
<td>Speaker, Single Day</td>
<td>No charge</td>
<td>No charge</td>
</tr>
<tr>
<td>Indicate day:__________________</td>
<td>No charge</td>
<td>No charge</td>
</tr>
<tr>
<td>Group Discount – Member* (three or more attending from the same company, registrations must be received together)</td>
<td>$825</td>
<td>$1,495</td>
</tr>
<tr>
<td>Group Discount - Nonmember (three or more attending from the same company, registrations must be received together)</td>
<td>$1,240</td>
<td>$2,245</td>
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<tr>
<td>Retired Member</td>
<td>$605</td>
<td>$1,095</td>
</tr>
<tr>
<td>Student</td>
<td>No charge</td>
<td>No charge</td>
</tr>
<tr>
<td>Spouse/Guest Program</td>
<td>$50</td>
<td>$75</td>
</tr>
<tr>
<td>Bleach Plant Operations Workshop (Sunday, October 21)</td>
<td>$50</td>
<td>$75</td>
</tr>
</tbody>
</table>

On or Before After

Do you require special accommodations for handicapped access? [ ] Yes [ ] No

The contact information you provide may be used by TAPPI or its business associates to notify you of items that may be of interest to you. I understand that under certain laws and regulations, TAPPI must have written permission in order to communicate with me via fax or e-mail. I hereby give TAPPI, TAPPI’s business associates, the TAPPI Foundation, and TAPPI’s Local Sections written permission to communicate with me via:

[ ] Fax and/or [ ] E-mail

Signature: ______________________________

Date: _________________________________

Registration Form (circle only one)

1. WHAT TYPE OF COMPANY DO YOU WORK FOR? (choose only one)
   - Pulp and Paper/Paperboard Manufacturing (1)
   - Paperboard Packaging Integrated Converting Plant (4AD)
   - Paperboard Packaging Independent Converting Plant (4AD)
   - Paperboard Packaging Headquarters (4BH)
   - Independent Consultant: Engineering, Technical Production or Research (2)
   - Manufacturer of Machinery, Equipment, Chemicals or Supplies (7)
   - Woodlands Operation (3)
   - Flexible Packaging Converting Plant (4BD)
   - Flexible Packaging Headquarters (4BH)
   - Dealer or Distributor of Supplies (8)
   - University Professor (9A)
   - Full Time Student (9B)
   - University Library (9C)
   - Press (10A)
   - Library (10B)
   - Association (10C)
   - Government (10D)
   - Retired (13)
   - Nonwovens (14)
   - Printing/Graphic Arts (15)
   - Industry Customer (End User) (16)
   - Allied to the Industry (12)

2. WHAT IS YOUR PRIMARY JOB FUNCTION? (check one)
   - Librarians – Corporate (A)
   - Corporate Management (B)
   - Production (C)
   - Technical/Research & Development (D)
   - Engineering (E)
   - Purchasing (F)
   - Marketing & Sales (G)
   - Traffic & Shipping (H)
   - Other Management & Administrative Personnel (I)
   - Other: ________________________ (J)

3. WHAT IS YOUR PRIMARY INDUSTRY? (check one)
   - Pulp Mill Only (P)
   - Technical/R&D Facility/Headquarters (H)
   - Paper/Paperboard Mill Only (R)
   - Independent Operations or Converting Plant (O)
   - Integrated Pulp/Paper/Paperboard Mill (D)

4. HOW DID YOU HEAR ABOUT THE CONFERENCE?
   - Tappi.org website
   - Email
   - Brochure
   - Newsletter
   - Colleague/Co-worker
   - Other: ________________________

5. WHEN CHOOSING A CONFERENCE THE MOST IMPORTANT FACTOR TO ME IS:
   - Registration Fee
   - Travel Costs
   - Program Content
   - Meeting Location
   - Networking/Peer Interactions
   - Access to new technology
   - Access to customers

Do you require special accommodations for handicapped access? [ ] Yes [ ] No

The contact information you provide may be used by TAPPI or its business associates to notify you of items that may be of interest to you. I understand that under certain laws and regulations, TAPPI must have written permission in order to communicate with me via fax or e-mail. I hereby give TAPPI, TAPPI’s business associates, the TAPPI Foundation, and TAPPI’s Local Sections written permission to communicate with me via:

[ ] Fax and/or [ ] E-mail

Signature: ______________________________

Date: _________________________________