<table>
<thead>
<tr>
<th>Session: 1</th>
<th>8:30 a.m. - 4:00 p.m.</th>
<th>Biological Wastewater Treatment Workshop</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Session Chair</strong></td>
<td>Michael H. Foster, Env. Bus. Specialists L.L.C.</td>
<td></td>
</tr>
<tr>
<td><strong>1 - 1 8:30 am</strong></td>
<td><strong>ASB Optimization and Troubleshooting</strong></td>
<td>Michael H. Foster, Env. Bus. Specialists L.L.C., Speaker</td>
</tr>
<tr>
<td><strong>1 - 2 12:30 pm</strong></td>
<td><strong>Activated Sludge Troubleshooting</strong></td>
<td>W. Wesley Eckenfelder, Jr., AquAe Ter Inc., Speaker</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Session: 2</th>
<th>8:00 a.m. - 4:00 p.m.</th>
<th>Bleach Plant Workshop</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Session Chair</strong></td>
<td>Thomas J. McDonough, Consultant</td>
<td></td>
</tr>
<tr>
<td><strong>2 - 1 8:00 am</strong></td>
<td><strong>Welcome and Introductions</strong></td>
<td>Thomas J. McDonough, Consultant, Speaker</td>
</tr>
<tr>
<td><strong>2 - 2 8:15 am</strong></td>
<td><strong>Principles, Chemicals, Stages and Sequences</strong></td>
<td>Thomas J. McDonough, Consultant, Speaker</td>
</tr>
<tr>
<td><strong>2 - 3 9:00 am</strong></td>
<td><strong>Environmental Aspects of Bleaching</strong></td>
<td>Thomas J. McDonough, Consultant, Speaker</td>
</tr>
<tr>
<td><strong>2 - 4 9:45 am</strong></td>
<td><strong>Oxygen Delignification</strong></td>
<td>Thomas J. McDonough, Consultant, Speaker</td>
</tr>
<tr>
<td><strong>2 - 5 10:15 am</strong></td>
<td><strong>Chlorine Dioxide Delignification</strong></td>
<td>Douglas C. Pryke, Consultant, Speaker</td>
</tr>
<tr>
<td><strong>2 - 6 10:45 am</strong></td>
<td><strong>Oxidation Alkaline Extraction</strong></td>
<td>Richard M. Berry, PAPRICAN, Speaker</td>
</tr>
<tr>
<td><strong>2 - 7 11:45 am</strong></td>
<td><strong>Chlorine Dioxide Brightening</strong></td>
<td>Douglas C. Pryke, Consultant, Speaker</td>
</tr>
<tr>
<td><strong>2 - 8 12:15 pm</strong></td>
<td><strong>Peroxide Delignification and Brightening</strong></td>
<td>Richard M. Berry, PAPRICAN, Speaker</td>
</tr>
<tr>
<td><strong>2 - 9 12:45 pm</strong></td>
<td><strong>Optimization of ECF Bleaching</strong></td>
<td>Douglas C. Pryke, Consultant, Speaker</td>
</tr>
<tr>
<td><strong>2 - 10 1:15 pm</strong></td>
<td><strong>Ozone, Enzymes and TCF</strong></td>
<td>Thomas J. McDonough, Consultant, Speaker</td>
</tr>
<tr>
<td><strong>2 - 11 2:00 pm</strong></td>
<td><strong>Hexenuronic Acids and Prehydrolysis</strong></td>
<td>Richard M. Berry, PAPRICAN, Speaker</td>
</tr>
<tr>
<td><strong>2 - 12 2:30 pm</strong></td>
<td><strong>Mixing, Retention and Washing</strong></td>
<td>Thomas J. McDonough, Consultant, Speaker</td>
</tr>
<tr>
<td><strong>2 - 13 3:00 pm</strong></td>
<td><strong>Bleach Plant Materials</strong></td>
<td>Andrew Garner, , Speaker</td>
</tr>
<tr>
<td><strong>2 - 14 3:30 pm</strong></td>
<td><strong>Process Control</strong></td>
<td>Douglas C. Pryke, Consultant, Speaker</td>
</tr>
</tbody>
</table>
Enzymes at Work: An Introduction of Enzyme Technologies for Forest Product Industry

Session Chair
Philip M. Hoekstra, Buckman Laboratories Inc.

Global Paper Recycling Research Trends and Needs

Panel Moderator
Junyong Zhu, USDA Forest Products Lab
Mahendra R. Doshi, Progress in Paper Recycling

4 - 1 4:00 pm Panelists
Zhan Huaiyu, South China Univ. of Technology
Gerard Galland, Centre Technique Du Papier
Loreen D. Ferguson, SCA North America Tissue Division

Opening Session and Awards Ceremony

State of the American Pulp And Paper Industry

Session Chair
Thomas J. McDonough, Consultant

Speaker
James McNutt, Ctr. Paper Bus. & Ind Studies

Pulp & Paper Nutrient (Panel)

Panel Moderator
Robert M. Stein, Aware Environmental Inc.

7 - 1 10:30 am Nutrient Regulations
John Kennedy, State of Virginia, Panelist

7 - 2 10:30 am Nitrogen Control in Pulp and Paper
W. Wesley Eckenfelder, Jr., AquAe Ter Inc., Panelist

7 - 3 10:30 am Phosphorus Control in Pulp and Paper
Robert M. Stein, Aware Environmental Inc., Panelist

7 - 4 10:30 am Case Histories
Michael H. Foster, Env. Bus. Specialists L.L.C., Panelist

Recycle Fiber Supply Issues Panel

Panel Moderator
Joseph R. Cable, Buckman Laboratories Inc.
8 - 1 10:30 am  **The Influence of Asian Imports on the US OCC Market**  
William P. Moore, Moore & Associates, Panelist

8 - 2 11:00 am  **Paper Recovery: Challenges and Opportunities**  
Johnny Gold, The Newark Group, Panelist  
Cathy Norris, AF & PA

8 - 3 11:30 am  **TBA**

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**8/29/2005**  
**Session: 9**  
10:30:a.m. - 12:00:p.m.  
**Improved Methods of Alkaline Pulping**

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**Session Chair**  
Peter W. Hart, MeadWestvaco Corporation

9 - 1 10:30 am  **Determining the Heat of Reaction of Kraft Pulping**  
Charles E. Courchene, IPST at Georgia Tech, Speaker  
Thomas J. McDonough, IPST at Georgia Tech  
Blair R. Carter, IPST at Georgia Tech  
Earl W. Malcolm,  
Peter W. Hart, MeadWestvaco Corporation

9 - 2 11:00 am  **A Quantitative Comparison of the Kinetic Features of Green Liquor-Modified Versus Conventional Kraft Pulping**  
Lucian A. Lucia, North Carolina State University, Speaker  
Weiping Ban, IPST at Georgia Tech  
Dimitris S. Argyropoulos, North Carolina State University

9 - 3 11:30 am  **Use of Borate in Semi-Chemical Pulping**  
John H. Cameron, Western Michigan University, Speaker  
Promodh K. Veguru, Western Michigan University

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**8/29/2005**  
**Session: 10**  
10:30:a.m. - 12:30:p.m.  
**Process Engineering & Process Simulation**

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**Session Chair**  
Loren E. Euhus, Pacific Simulation Metso

10 - 1 10:30 am  **Dynamic Modeling Of Pressurized Peroxide Stages With Application To Full Bleach Plant Simulation Part II: Mill Applications**  
Louis L. Edwards, University of Idaho, Speaker  
Barry Malmberg, University of Idaho

10 - 2 11:00 am  **Process Mapping; Fibers, Energy and Water Management**  
Marco Pescantin, Comer SpA, Speaker

10 - 3 11:30 am  **Multivariate Analysis for the Development of a TMP Simulation Model**  
Yang Li, UQTR, Speaker  
Luc Laperriere, UQTR  
Robert Lanouette, UQTR

10 - 4 12:00 pm  **Neural Network Model-Based Paper Machine Marginal Cost Curves**  
Theodora Retsina, American Process Inc., Speaker  
Steven R. Rutherford, American Process Inc.  
Patrinos Panagiotis, National Tech. Univ. of Athens  
Haralambos Sarimveis, National Tech. Univ. of Athens  
Alex Alexandridis, American Process Inc.
### Pulp & Paper Business Issues

**Session Chair**
Colleen C. Walker, Center for Paper Business

**11 - 1 1:30 pm The Myth of Commodity Pulps**
Alan F. Button, Buttonwood Consulting LLC, Speaker
Hiroki Nanko, IPST @ Georgia Tech
David C. Hillman, Dave Hillman Consultants

**11 - 2 2:00 pm Adaptable Biorefinery: Some Basic Economic Concepts to Guide Research Selection**
Michael Farmer, CPBIS, Speaker

**11 - 3 2:30 pm Global Competitiveness of the U.S. South’s Linerboard Sector**
Thomas G. Harris, Jr., University of Georgia, Speaker
Jacek M. Siry, University of Georgia
Sara Baldwin, University of Georgia
David E Null, Jaakko Poyry Consulting
Jose Gonzalez, Jaakko Poyry Consulting

### Developments in Nonwood Fiber Pulping

**Session Chair**
Robert W. Hurter, HurterConsult Incorporated

**12 - 1 1:30 pm A Simplified Pulping & Bleaching Process for Pith-Containing Nonwoods: Trials on Whole Corn Stalks**
Medwick V. Byrd, Jr., North Carolina State University, Speaker
Robert W. Hurter, HurterConsult Incorporated

**12 - 2 2:00 pm An Improved Environmentally Benign Process for Manufacturing of High Quality Chemical Bagasse Pulp**
Rakesh K. Jain, Central Pulp & Paper Research Inst., Speaker
Ashwini Dixit, Central Pulp & Paper Research Inst.

### Performance -based Specifications for Government Paper (joint Environmental/Bleaching) Panel

**Panel Moderator**
Carl J. Houtman, USDA Forest Products Lab

### Recycled Fiber Properties

**Session Chair**
John H. Cameron, Western Michigan University

**14 - 1 1:30 pm Measurement of Fiber Hornification Using High Resolution Thermogravimetric Analysis**
Sunkyu Park, North Carolina State University, Speaker
Richard A. Venditti, Jr., North Carolina State Univ.
Hasan Jameel, North Carolina State Univ.
Joel J. Pawlak, North Carolina State University
## Upgrading OCC and Recycled Liner Pulps by Medium-consistency Ozone Treatment

Tom McDonough, IPST@ Georgia Tech, Speaker  
Miguel Zanuttini, Facultad De Ingenieria Quimica (FIQ-UNL)  
Charles E. Courchene, IPST @ Georgia Tech

## The Impact of Changing ONP Quality on a Newsprint Mill

William K. Sacia, Weyerhaeuser Company, Speaker  
Jay Simmons, Weyerhaeuser Company

### 8/29/2005  
Session: 15  
New Regulatory Initiatives

**Session Chair**  
Amy M. Marshall, URS Corporation

### 15 - 1 1:30 pm  
**Regulatory Update**  
Robert C. Kaufmann, Georgia-Pacific Corporation, Speaker

### 15 - 2 2:00 pm  
**Challenges Facing Facilities in 8-Hour Ozone and/or PM2.5 Nonattainment Areas**  
Deanna L. Duram, Trinity Consultants, Speaker

### 15 - 3 2:30 pm  
**Source-Specific Regional Haze BART Assessments (for Regional Haze BART Topic)**  
Robert J. Paine, ENSR Corporation, Speaker  
David Heinold, ENSR Corporation  
Robert M. Iwanchuk, ENSR Corporation

### 8/29/2005  
Session: 16  
Millwide Tanks and Pressure Vessel Inspection Protocols Panel

**Session Chair**  
Joseph R. Kish, PAPRICAN

### 8/29/2005  
Session: 17  
Alternative Caustic Source Roundtable

**Session Chair**  
Peter L. Gleadow, Procyclic Consulting Ltd.

### 17 - 1 3:30 pm  
Brian N. Brogdon, Kemira Chemicals Inc., Speaker  
Lucian A. Lucia, North Carolina State University

### 17 - 2 4:00 pm  
**Use of Magnesium Compounds in Place of NaOH**  
Aileen R. Gibson, Martin Marietta Magnesia Spec., Panelist

### 17 - 3 4:20 pm  
**Alternative Caustic Source (or Save Caustic?)**  
Richard M. Berry, PAPRICAN, Panelist

### 8/29/2005  
Session: 18  
Developments in Nonwood Fiber Black Liquor Recovery

**Session Chair**  
Medwick V. Byrd, Jr., North Carolina State University

### 18 - 1 3:30 pm  
**Lowering Cost of Bio-Ethanol Production Using Electrolytic Process**  
Ricardo F. Caro, Electrosep Inc., Speaker  
Robert W. Hurter, HurterConsult Incorporated
18 - 2  4:00 pm  Treatment of Non-Wood Black Liquors by Electrolysis and Lignin Precipitation
Jairo H. Lora, Granit S.A., Speaker
Jean-Noel Cloutier, PAPRICAN
Ricardo F. Caro, Electrosep Inc.

8/29/2005  3:30:p.m. - 5:00:p.m.
Session: 19  Climate Change and the Forest Products Industry-The Importance of the Big Picture (Panel)

Panel Moderator
Dale K. Phenicie, Env. Affairs Consulting

Panelist
Dee Gavora, AF&PA
Tom Rosser, FPAC
Reid A. Miner, NCASI

8/29/2005  3:30:p.m. - 5:00:p.m.
Session: 20  Mechanical Pulping

Session Chair
Raymond C. Francis, Empire State Paper Res. Inst.

20 - 1  3:30 pm  The Relationship between Refiner Speed and Energy Consumption in TMP and CTMP
Jeffery S. Hsieh, Georgia Inst. of Technology, Speaker
Tim Wang, Georgia Inst. of Technology

20 - 2  4:00 pm  High-Quality Wood Handling a Prerequisite for High-Quality Mechanical Pulp
Tom Lind, Jaakko Poyry Inc., Speaker
Oksanen Nicholas, Jaakko Poyry Inc.

20 - 3  4:30 pm  Evaluation of Forest Thinning Materials for TMP Production
Junyong Zhu, USDA Forest Products Lab, Speaker
John H. Klungness, USDA Forest Products Lab
Roland L. Gleisner, USDA Forest Products Lab
Doreen Mann, USDA Forest Products Lab
Karen Scallon, USDA Forest Prod. Labs
Eric Horn, BioPulping International
Louis L. Edwards, University of Idaho

8/29/2005  3:30:p.m. - 5:00:p.m.
Session: 21  Residuals Management (Panel)

Session Chair
William E. Thacker, NCASI

21 - 1  3:30 pm  Composting of By-product Solids from the Pulp and Paper Industry
William E. Thacker, NCASI, Speaker

21 - 2  3:30 pm  Fiber Clay from Byproduct to Product
Peter Coleman, Eresco, Inc., Speaker

21 - 3  3:30 pm  Manufactured Topsoil Using Papermill Residuals: Refining the Recipe to Maximize Long-term Soil Fertility
Andrew Carpenter, Northern Tilth, Speaker
### Engineering/Pulping New Technology Showcase

**Session Chair**
Don R. Sorenson, AMEC

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Topic</th>
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<tbody>
<tr>
<td>3:30 pm</td>
<td>Dirk A. Lindenbeck</td>
<td><strong>Reduction Of Damage In Blow Lin</strong></td>
</tr>
<tr>
<td>3:37 pm</td>
<td>Douglas Mancosky</td>
<td><strong>Hydro Dynamics, Inc ShockWave Power TM Reactor Oxygen Delignification System</strong></td>
</tr>
<tr>
<td>3:44 pm</td>
<td>Al Kozusko</td>
<td><strong>Boiler Combustion Improvement and NOx Reduction Technology That Extends Boiler Component Lifecycle</strong></td>
</tr>
<tr>
<td>3:51 pm</td>
<td>Allen Turner</td>
<td><strong>Andritz New Technology Presentation: Environmentally Friendly Chip Pre-Steaming</strong></td>
</tr>
<tr>
<td>3:58 pm</td>
<td>Kenneth W. Corscadden</td>
<td><strong>Process Improvement Using Intelligent Drainage Analysis</strong></td>
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<tr>
<td>4:05 pm</td>
<td>Shuyu Wang</td>
<td><strong>Introducing Genesis</strong></td>
</tr>
<tr>
<td>4:12 pm</td>
<td>W. Eric Wiley</td>
<td><strong>Simplifying the M&amp;D Digester System</strong></td>
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<tr>
<td>4:19 pm</td>
<td>Bruce Cincotta</td>
<td><strong>New Steam Heater Revolutionizes Hot Water Market</strong></td>
</tr>
<tr>
<td>4:26 pm</td>
<td>Danny S. Tandra</td>
<td><strong>Clyde Bergemann Dual Motor and Low Pressure Sootblower</strong></td>
</tr>
<tr>
<td>4:33 pm</td>
<td>Lyndon Lauzon</td>
<td><strong>novel Brown Stock Washer Defoamer Offers Improved Performance Price Stability for Pulp Producers</strong></td>
</tr>
<tr>
<td>4:40 pm</td>
<td>Robert P. Belling</td>
<td><strong>Energy Monitor - A Neural Network Tool to Help Control Energy Costs on a Daily Basis</strong></td>
</tr>
<tr>
<td>4:47 pm</td>
<td>Barbara Van Lierop</td>
<td><strong>Automated Laboratory Kappa Number Testing: USE THIS TOOL TO IMPROVE YOUR TESTING CAPABILITIES</strong></td>
</tr>
</tbody>
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### New Source Review Reform Roundtable

**Panelist**
Corey A. Brandt, Glatfelter  
Tony D. Owens, MeadWestvaco Corporation  
John Flade, Pennsylvania DEP  
Kathleen Anderson, US EPA Region III  
Bart Cassidy, Manko, Gold, Katcher and Fox  
Dan Holland, ALL 4 Inc.

**Roundtable Moderator**
John P. Egan, ALL4 Inc.
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<thead>
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<th>Time</th>
<th>Topic</th>
<th>Presenter</th>
<th>Roundtable Moderator</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 - 1</td>
<td>7:00 am</td>
<td>Odor Control WWT</td>
<td>Stephen E. Huza, FOUR SOME PLUS TECHNOLOGIES</td>
<td>Don R. Sorenson, AMEC</td>
</tr>
<tr>
<td>24 - 2</td>
<td>7:00 am</td>
<td>Environmental Incentive Programs</td>
<td>Reid A. Miner, NCASI</td>
<td>Don R. Sorenson, AMEC</td>
</tr>
<tr>
<td>24 - 3</td>
<td>7:00 am</td>
<td>ABS Solids Management</td>
<td>Robert M. Stein, Aware Environmental Inc.</td>
<td>Don R. Sorenson, AMEC</td>
</tr>
<tr>
<td>24 - 4</td>
<td>7:00 am</td>
<td>Aeration Energy Efficiency</td>
<td>Michael H. Foster, Env. Bus. Specialists L.L.C.</td>
<td>Don R. Sorenson, AMEC</td>
</tr>
<tr>
<td>24 - 5</td>
<td>7:00 am</td>
<td>Environmental Performance Reporting and Auditing</td>
<td>Dale K. Phenicie, Env. Affairs Consulting</td>
<td>Don R. Sorenson, AMEC</td>
</tr>
<tr>
<td>24 - 6</td>
<td>7:00 am</td>
<td>Calculating Yield in Recycled Fiber Systems</td>
<td>Terry L. Bliss, Process Consultants Inc.</td>
<td>Don R. Sorenson, AMEC</td>
</tr>
<tr>
<td>24 - 7</td>
<td>7:00 am</td>
<td>The Role of Engineering and Maintenance in Asset Protection</td>
<td>Martin M. Morris, Mopac Plant/Building Services</td>
<td>Don R. Sorenson, AMEC</td>
</tr>
<tr>
<td>24 - 8</td>
<td>7:00 am</td>
<td>Preventing Injuries Due to Manual Port and Smelt Spout Rodding</td>
<td>Simon Youssef, Diamond Power International</td>
<td>Don R. Sorenson, AMEC</td>
</tr>
<tr>
<td>24 - 9</td>
<td>7:00 am</td>
<td>Effects of High Energy Costs on Chemical Recovery Systems</td>
<td>Thomas M. Grace, T. M. Grace Company Inc.</td>
<td>Don R. Sorenson, AMEC</td>
</tr>
<tr>
<td>24 - 10</td>
<td>7:00 am</td>
<td>Chloride Control/Impacts from Using Cheap Caustic</td>
<td>Richard M. Berry, PAPRICAN</td>
<td>Don R. Sorenson, AMEC</td>
</tr>
<tr>
<td>24 - 11</td>
<td>7:00 am</td>
<td>Making O2 Delignification More Effective</td>
<td>Thomas J. McDonough, Consultant</td>
<td>Don R. Sorenson, AMEC</td>
</tr>
<tr>
<td>24 - 12</td>
<td>7:00 am</td>
<td>Improving Environmental Performance Through In-Plant Measures</td>
<td>Peter L. Gleadow, Procyclic Consulting Ltd.</td>
<td>Don R. Sorenson, AMEC</td>
</tr>
<tr>
<td>24 - 13</td>
<td>7:00 am</td>
<td>Recovery Boiler Air System Optimization</td>
<td>Joseph A. Barsin, Technocrats Inc.</td>
<td>Don R. Sorenson, AMEC</td>
</tr>
<tr>
<td>24 - 14</td>
<td>7:00 am</td>
<td>Recausticizing and Lime Kiln Operational Issues</td>
<td>Dale R. Sanchez, Vector Process Equipment Inc.</td>
<td>Don R. Sorenson, AMEC</td>
</tr>
<tr>
<td>24 - 15</td>
<td>7:00 am</td>
<td>Effects of Modified Pulping on Chemical Recovery Systems</td>
<td>Patrik Lownertz, AF-IPK AB</td>
<td>Don R. Sorenson, AMEC</td>
</tr>
<tr>
<td>24 - 16</td>
<td>7:00 am</td>
<td>The Forest Biorefinery-Are We Barking Up the Right Tree?</td>
<td>Benjamin A. Thorp</td>
<td>Don R. Sorenson, AMEC</td>
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</tbody>
</table>
## Session 25: 8:30 a.m. - 10:00 a.m.
### Session Chair
Brian N. Brogdon, Kemira Chemicals Inc.

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speakers</th>
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<tbody>
<tr>
<td>8:30 a.m.</td>
<td><strong>Fundamental Chemistry of Precipitation and Mineral Scale Formation</strong></td>
<td>Peter W. Hart, MeadWestvaco Corporation, Speaker</td>
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<td>Alan W. Rudie, USDA Forest Products Lab</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td><strong>Non-Process Elements in the Paper Industry</strong></td>
<td>Peter W. Hart, MeadWestvaco Corporation, Speaker</td>
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<td></td>
<td>Alan W. Rudie, USDA Forest Products Lab</td>
</tr>
<tr>
<td>9:30 a.m.</td>
<td><strong>Application of Fundamental Principles to Mineral Scale Reduction – Case Studies</strong></td>
<td>Peter W. Hart, MeadWestvaco Corporation, Speaker</td>
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<td>Alan W. Rudie, USDA Forest Products Lab</td>
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## Session 26: 8:30 a.m. - 10:00 a.m.
### Session Chair
Michael H. Foster, Env. Bus. Specialists L.L.C.

<table>
<thead>
<tr>
<th>Time</th>
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<th>Speakers</th>
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<tbody>
<tr>
<td>8:30 a.m.</td>
<td><strong>Innovative Primary Solids Treatment with Dissolved Air Flotation</strong></td>
<td>Phil Sparks, Louisana-Pacific Corp., Speaker</td>
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<td>Sam C. White, RMT Inc., Speaker</td>
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<td>John Joyce, Louisana-Pacific Corp.</td>
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<td>Anita Doepke, RMT Inc.</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td><strong>Effect of Solids on Activated Sludge Aeration Basin Design for Biological Treatment of Pulp and Paper Mill Wastewater</strong></td>
<td>W. Wesley Eckenfelder, Jr., AquAe Ter Inc., Speaker</td>
</tr>
<tr>
<td>9:30 a.m.</td>
<td><strong>Thermophilic High-Rate Biological Treatment of Kraft Mill Effluent in a Biofilm-Chip MBBR Process</strong></td>
<td>Asa Malmqvist, ANOX AB, Speaker</td>
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<td>Anders Lofqvist, ANOX AB</td>
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<td>Ruben Fredrikson, Munksjo Aspa Bruk AB</td>
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<td>Thomas Welander, PhD, ANOX AB</td>
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<td>Bengt Lindqvist, Munksjo Aspa Bruk AB</td>
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## Session 27: 8:30 a.m. - 10:00 a.m.
### Session Chair
Gail E. Sherson, International Paper

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 a.m.</td>
<td><strong>Flow Cell Imaging Fiber Analysis, a New Way to Characterize Pulps</strong></td>
<td>Joseph J. OLeary, Techpap Inc., Speaker</td>
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<td>Guy Eymin-Petot-Tourtollet, CTP</td>
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<tr>
<td>9:00 a.m.</td>
<td><strong>A Mill Procedure for Monitoring Fiber Quality Variations</strong></td>
<td>Geoffrey G. Duffy, University of Auckland, Speaker</td>
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<td>Session</td>
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<tr>
<td>27 - 3</td>
<td>8/30/2005</td>
<td>9:30 am</td>
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<td><strong>8/30/2005</strong></td>
<td><strong>Session: 28</strong></td>
<td><strong>8:30 a.m. - 9:30 a.m.</strong></td>
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<tr>
<td>28 - 1</td>
<td>8:30 am</td>
<td><strong>Reliability Focused Asset Management</strong></td>
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<td>28 - 2</td>
<td>9:00 am</td>
<td><strong>Elements of a Successful Plant Maintenance Program</strong></td>
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<tr>
<td><strong>8/30/2005</strong></td>
<td><strong>Session: 29</strong></td>
<td><strong>8:30 a.m. - 10:00 a.m.</strong></td>
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<td>29 - 1</td>
<td>8:30 am</td>
<td><strong>Boiler MACT Regulations-An Overview</strong></td>
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<td>29 - 2</td>
<td>9:00 am</td>
<td><strong>General Provisions Requirements for Boiler MACT Compliance</strong></td>
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<td>29 - 3</td>
<td>9:30 am</td>
<td><strong>The Boiler MACT for the Forest Products Industry: An Engineering Evaluation Protocol</strong></td>
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<td><strong>8/30/2005</strong></td>
<td><strong>Session: 30</strong></td>
<td><strong>8:30 a.m. - 10:00 a.m.</strong></td>
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<td>30 - 1</td>
<td>8:30 am</td>
<td><strong>Development and Optimization of Biotechnology Use in the Manufacture of Bleached Chemical Pulps</strong></td>
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<td>30 - 2</td>
<td>9:00 am</td>
<td><strong>Effect of pH Control on Xylanase Performance in Kraft Pulp Bleaching</strong></td>
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<td>30 - 3</td>
<td>9:30 am</td>
<td><strong>Structural Changes of Residual Lignin of Softwood and Hardwood Kraft Pulp upon Oxidative Treatment with Polyoxometalates</strong></td>
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<td>8/30/2005</td>
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<td>8/30/2005</td>
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<td>Session 32</td>
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<td>8/30/2005</td>
<td>8:30 a.m. - 10:00 a.m.</td>
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<td>33 - 3</td>
<td>9:30 am</td>
<td><strong>33 - 3</strong></td>
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</tbody>
</table>
Session Chair
Christopher L. Verrill, IPST@ Georgia Tech

34 - 1 10:30 am Evaporator Fouling 101- Sodium Salt Crystallization and Soluble-scale Fouling
Christopher L. Verrill, IPST@Georgia Tech, Speaker
William J. Frederick, IPST@Georgia Tech

34 - 2 11:00 am Evaporator Fouling Mitigation-Case Studies
Nikolai A. DeMartini, IPST@Georgia Tech, Speaker
Christopher L. Verrill, IPST@ Georgia Tech

34 - 3 11:45 am Update of the American Forest and Paper Association Recovery Boiler Program
Thomas J. Grant, American Forest & Paper Assn., Session Chair

Session Chair
Reid A. Miner, NCASI

35 - 1 10:30 am Material Substitution to Reduce Mercury Concentrations in Pulp and Paper Industry Final Effluents
Jeff Louch, NCASI, Speaker

35 - 2 11:00 am Understanding Wastewater Treatment Plant Odors at Kraft Pulp Mills
Paul S. Wiegand, NCASI, Speaker
Diana Cook, NCASI
Robert J. Crawford, NCASI
Ashok K. Jain, NCASI
James Palumbo, NCASI
John E. Pinkerton, NCASI

35 - 3 11:30 am Reduction of Odorous Reduced Sulfur Emissions from Kraft Pulp Mills Using Green Liquor Dregs
Howard L. Empie, Jr., GeorgiaTech., Speaker
Daniel Lane, Degussa Corp.

Session Chair
Patricia Fleischauer, ENSR International

36 - 1 10:30 am A Review of the Evolving Technologies for Control Of Mercury Emissions From Boilers
George S. Dowe, Jacobs Engineering Group Inc., Speaker

36 - 2 11:00 am Boiler MACT Compliance with New Scrubber Technology, A Case Study
Magnus Rundqwist, EnviroCare International, Speaker
Kimmo Peltonen, Andritz Inc.
Marty A. Duckworth, Gulf States Paper Corporation
Innovative Solutions for a Challenging Biomass Fuel and Boiler Upgrade Project
Joseph R. Strempek, Babcock & Wilcox Co., Speaker
Aaron J. Rose, Babcock & Wilcox Company
Larry A. Hiner, Babcock & Wilcox Company
W. Glass, Gulf States Paper

8/30/2005 10:30 a.m. - 11:30 p.m.
Session: 37 Optimizing the Caustic Extraction Stage

Session Chair
Daniel Connell, EKA Chemicals Inc.

37 - 1 10:30 a.m. A Survey of Mills Using Caustic-Saving Extraction Stage Chemistry
Wayne Bucher, WB Consulting Inc., Speaker
Richard M. Berry, PAPRICAN
James T. Wearing, Noram Engineering

37 - 2 11:00 a.m. Magnesium Hydroxide: An Alternative Chemical for Pulp Bleaching
Aileen R. Gibson, Martin Marietta Magnesia Spec., Speaker
Mark Wajer, Martin Marietta Magnesia Spec.
Paul Schmidtchen, Martin Marietta Magnesia Spec.
Tiffany Petrie, Martin Marietta Magnesia Spec.

8/30/2005 10:30 a.m. - 12:00 p.m.
Session: 38 Residuals Management Committee Meeting

Session Chair
Saul J. Furstein, Georgia-Pacific Corporation

38 - 1 10:30 a.m. Thinking Outside the Box
Joseph W. Laubenstein, Synagro Technologies Inc., Speaker

8/30/2005 10:30 a.m. - 12:00 p.m.
Session: 39 Environmental Permitting (Panel)

Panel Moderator
Dale K. Phenicie, Env. Affairs Consulting

39 - 1 10:30 a.m. Improving the Environmental Permitting Process
Dale K. Phenicie, Env. Affairs Consulting, Speaker

8/30/2005 10:30 a.m. - 12:00 p.m.
Session: 40 Microstickies Concentration Measurement Methods (Panel)

Panel Moderator
Carl J. Houtman, USDA Forest Products Lab
Mahendra R. Doshi, Progress in Paper Recycling

40 - 0 10:30 a.m. Panelists
Richard A. Venditti, Jr., North Carolina State Univ.
Thierry Delagoutte, Centre Technique Du Papier
R. Daniel Haynes, Sr., Eka Chemicals Inc.
**8/30/2005**  
**Session: 41**  
PBT TMDL (Panel)

**Panel Moderator**  
TBA

**Panelist**  
Marc E. Gold, Manko, Gold, Katcher, and Fox  
J. David Dean, ENTRIX

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**8/30/2005**  
**Session: 42**  
Troubleshooting Pulp Mill Operations (Panel)

**Panelist**  
Jeffrey W. Brown, Georgia-Pacific Corporation  
Sean M. Smith, Rock Tenn Company  
Michael P. Ferguson, Blue Ridge Paper Products Inc.  
Jefferson A. Stevens, Bowater Inc.  
Douglas C. Pryke, Consultant

**Session Chair**  
Thomas J. McDonough, Consultant

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**8/30/2005**  
**Session: 43**  
Novel Methods for Upgrading Recycled Fiber (joint session of the Pulping and Bleaching Committee and the Recycled Fiber Committee)

**Session Chair**  
R. Daniel Haynes, Sr., Eka Chemicals Inc.

43 - 1  1:30 pm  
"DBI" Bleaching of Recycled Fibers for the Production of Towel and Napkin Grades  
Goda Rangamannar, Rohm and Haas Company, Speaker  
Joseph R. Bettano, Rohm and Haas Company  
Richard P. Hebert, Rohm and Haas Company

43 - 2  2:00 pm  
Enhancement of Wood Pulps by Cellulase Treatment  
Daniel L. Michalopoulos, Dyadic International Inc, Speaker  
Brian Murdoch, Dyadic International, Inc.  
Debayan Ghosh, Dyadic International Inc.

43 - 3  2:30 pm  
The Effectiveness of TAED on the Peroxide Bleaching of Mechanical, Chemical, and Recycled Pulp  
Jeffery S. Hsieh, Georgia Inst. of Technology, Speaker  
Jane Mathews, Warwick Intl. Group Ltd.  
John G. Kokoszka, EvCo Research Inc.  
Chhaya Agrawal, Georgia Inst. of Technology  
Hong Xiang Xu, Georgia Inst. of Technology

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**8/30/2005**  
**Session: 44**  
Air Committee Meeting

**Session Chair**  
Karin M. Greenacre, RMT Inc.

44 - 1  1:30 pm  
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<tr>
<th>Date</th>
<th>Time</th>
<th>Session</th>
<th>Topic</th>
<th>Chair(s)</th>
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<tbody>
<tr>
<td>8/30/2005</td>
<td>1:30:p.m. - 3:00:p.m.</td>
<td>45</td>
<td>Corrosion &amp; Materials Selection</td>
<td>Andrew Garner, Consultant</td>
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<td><strong>Corrosion of Evaporators</strong></td>
<td>Angela Wensley, P.E., Angela Wensley Eng. Inc., Speaker</td>
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<td>Dave Christie, Bacon Donaldson Consulting Engineers</td>
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<td>2:00 pm</td>
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<td><strong>Erosion Resistance of Infiltration Brazed Tungsten Carbide Cladding</strong></td>
<td>Chad Juliot, Conforma Clad Inc, Speaker</td>
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<td>D. W. Bucholz, Conforma Clad Inc</td>
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<td>2:30 pm</td>
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<td><strong>Corrosion and Corrosion Prevention of Digesters Operating with Modern Cooking Processes</strong></td>
<td>Casimir E.V. Svensson, Savcor LTD, Speaker</td>
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<td>Martti T. Pulliainen, Savcor Group Ltd. Oy</td>
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<td>Martti K. Huttunen, Savcor Consulting Inc.</td>
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<td>Pasi Niemelainen, Savcor Ltda.</td>
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<td>8/30/2005</td>
<td>1:30:p.m. - 5:00:p.m.</td>
<td>46</td>
<td>Management of Major Capital Projects Around the World Roundtable (SESSION CANCELLED)</td>
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<td>8/30/2005</td>
<td>1:30:p.m. - 2:30:p.m.</td>
<td>47</td>
<td>Improving Mill Operations</td>
<td>Bruce P. Archibald, International Paper</td>
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<td>1:30 pm</td>
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<td><strong>Asymmetrical Washing Liquor Flow Control in Continuous Digester</strong></td>
<td>Manne Tervaskanto, University of Oulu, Speaker</td>
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<td>Timo Ahvenlampi, University of Oulu</td>
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<td><strong>Observation and Visualization of the Chip Compaction Distrubances in Digester</strong></td>
<td>Heidi-Maria Puolakka, University of Oulu, Speaker</td>
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<td>Manne Tervaskanto, University of Oulu</td>
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<td>Timo Ahvenlampi, University of Oulu</td>
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<td>8/30/2005</td>
<td>1:30:p.m. - 3:00:p.m.</td>
<td>48</td>
<td>Environmental Management Committee Meeting</td>
<td>Dale K. Phenicie, Env. Affairs Consulting</td>
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<td>1:30 pm</td>
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<td><strong>Applications Of Best Available Technologies (BAT ) For Integrated Environmental Management</strong></td>
<td>Dilip P Chandarana, Century Pulp &amp; Paper, Speaker</td>
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<td>Rameshwar L. Lakhotia, Century Pulp &amp; Paper</td>
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<td>2:15 pm</td>
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<td><strong>Is Environmental Management System Implementation an Option? (A Panel Discussion)</strong></td>
<td>Sarah Burton, RMT Inc., Speaker</td>
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<td>Daniel A. Curry, RMT Inc., Speaker</td>
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<td>8/30/2005</td>
<td>1:30:p.m. - 3:00:p.m.</td>
<td>49</td>
<td>Recovery Boiler Fouling and Sootblowing</td>
<td>James A. Dickinson, Babcock &amp; Wilcox Company</td>
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</tbody>
</table>
Field Studies on Composition of Carryover Particles in Recovery Boilers
Asghar Khalaj-Zadeh, University of Toronto, Speaker
Christopher L. Verrill, IPST at Georgia Tech
Honghi Tran, University of Toronto
David C. S. Kuhn, University of Toronto

Mill Trial on Low Pressure Sootblower Performance in a Recovery Boiler
Andrei Kaliazine, University of Toronto, Speaker
Honghi Tran, University of Toronto
Ishaq Jameel, Clyde-Bergemann Inc.
Dan C. Mott, Irving Pulp & Paper Ltd.
Donald McCabe, Irving Pulp & Paper Ltd.
Danny S. Tandra, University of Toronto
Donald E. Cormack, University of Toronto

An Optimized Recovery Boiler Cleaning System
Alarick J. Tavares, Diamond Power, Speaker
Simon Youssef, Diamond Power International

Optimizing ECF Bleaching
Session Chair
Wayne Bucher, WB Consulting Inc.

Improving Chlorine Dioxide Bleaching Efficiency by Selecting the Optimal pH Targets
Daniel Connell, EKA Chemicals Inc., Speaker
Peter W. Hart, MeadWestvaco Corporation

Douglas C. Pryke, Consultant, Speaker
Paul F. Earl, Paul Earl Consulting Inc.

Adoption of Chloroform Certification in Lieu of Bleach Plant Effluent Monitoring – A Status Report
Paul S. Wiegand, NCASI, Speaker

Recovery Boiler Materials Performance
Session Chair
Margaret E. Gorog, Weyerhaeuser Company

Metallurgical Characteristics and Performance Experience of Unifuse Overlay Tubes in Black Liquor Recovery Boilers
George Y. Lai, Corrosion and Metallurgical Consulting, Speaker
Angela Wensley, P.E., Angela Wensley Eng. Inc.
52 - 2 4:00 pm  Investigation of a Superheater Tube Cracking Problem
James R. Keiser, Oak Ridge National Laboratory, Speaker
Gorti B. Sarma, Oak Ridge National Laboratory
Douglas L. Singbeil, PAPRICAN
Francois R. Jette, P.E., Domtar Inc.
Kimberly Choudhury, Oak Ridge National Laboratory
Richard Emerson, Domtar Inc.
Elizabeth F. Walker, Domtar Inc.
Joseph R. Kish, PAPRICAN

52 - 3 4:30 pm  Minimizing the impact of Stress Assisted Corrosion in Paper Mill Boilers
Norris N. Johnston, Hercules Pulp & Paper Division, Speaker
Mark A. Sargent, International Paper
Mel J. Esmacher, GE Water and Process Tech.

52 - 4 5:00 pm  Modeling of Recovery Boiler Tube Wall Panels to Investigate the Effect of Attachment Plates on Waterside Corrosion
James R. Keiser, Oak Ridge National Laboratory, Speaker
Steven J. Pawel, Oak Ridge National Laboratory
Preet M. Singh, Georgia Institute of Technology
Gorti B. Sarma, Oak Ridge National Laboratory

8/30/2005 3:30 p.m. - 4:30 p.m.
Session: 53
Improving Heat Transfer and Heat Recovery

Session Chair
James A. Dickinson, Babcock & Wilcox Company

53 - 1 3:30 pm  Reducing Mill Energy Costs with Compact Heat Exchangers and Condensers
Joe Polito, Alfa Laval Inc, Speaker
Sheldon Young, Alfa Laval Inc
Peter S. Tran, Alfa Laval Inc.

53 - 2 4:00 pm  The Economics of Direct Steam Injection
Bruce Cincotta, Hydro-Thermal Corporation, Speaker

8/30/2005 3:30 p.m. - 5:00 p.m.
Session: 54
Environmental New Technology Showcase

Session Chair
Michael R. Corn, P.E., AquAeTer Inc.

54 - 1 3:30 pm  New Probe and Measurement Technologies for TRS Monitoring
Greg Muldrew, Environmental Systems Corp., Speaker

54 - 2 3:40 pm  SBR System Treats Integrated Paper Mill Wastewater in China
Albert A. Cocci, ADI Systems Inc., Speaker

54 - 3 3:50 pm  Pilot Trials on “FilterdynamicÔ” Technology for Ultra Clarification of Whitewater for Reuse in Place of Fresh Water
Francis Miller, Jannanco, Speaker

54 - 4 4:00 pm  Geotube® used to contain P&P Waste
Glenn M. Lundin, Ten Cate Nicolon MiraTech Div, Speaker

54 - 5 4:10 pm  Geotextile Tube Technology is Environmentally and Economically a Success
Glenn M. Lundin, Ten Cate Nicolon MiraTech Div, Speaker
54 - 6  4:20 pm  Oxycair Solution: New and Unique Technology for Pulp & Paper Secondary Sludge Management
Daniel Gagnon, PhD, Whaddon Water Management, Speaker

54 - 7  4:30 pm  Roadmap to Compliance - Lessons Learned by Industrial Sources Complying with the NOx SIP Call
Rudi Muenster, VIM Technologies Inc., Speaker

8/30/2005  3:30:p.m. - 5:30:p.m.  Session: 55  Fiber Raw Materials

Session Chair
William S. Fuller, FRM Consulting

55 - 1  3:30 pm  Poplar Breeding for Superior Papermaking Fibers
Samar K. Bose, State University of New York, Speaker
Raymond C. Francis, Empire State Paper Res. Inst.
Soo-Jeong Shin, SUNY-ESF
Alton Brown, SUNY-ESF
Don Riemenschneider, US Forest Service
Robert Hanna, SUNY-ESF

55 - 2  4:00 pm  Hybrid Poplar Plantations for the North American Pulp and Paper Industry - History and Future Outlook
Brian Stanton, GreenWood Resources in, Speaker

55 - 3  4:30 pm  U. S. Hardwood Fiber Demand and Supply Situation: Globalization and Structural Change
Peter J. Ince, USDA Forest Products Lab, Speaker
Irene Durbak, USDA Forest Products Lab
Paul Sendak, USDA Forest Service

55 - 4  5:00 pm  Technological Characterization of the New Generation of Brazilian Eucalyptus Clones for Kraft Pulp Production
Jose L. Gomide, Federal University of Vicosa, Speaker
Jorge L. Colodette, Federal University of Vicosa
Rubens de Oliveria, Federal University of Vicosa
Claudio Mudado Silva, Federal University of Vicosa

8/30/2005  3:30:p.m. - 5:00:p.m.  Session: 56  Recycled Fiber Committee

8/31/2005  7:00:a.m. - 8:30:a.m.  Session: 57  Hot Topic Breakfast

Session Chair
Don R. Sorenson, AMEC

57 - 1  7:00 am  CCA/Hard Pipe Issues and Alternatives
Moira Y. Layman, International Paper, Session Chair

57 - 2  7:00 am  Residuals Utilization
Richard K. Lowe, International Paper, Roundtable Moderator

57 - 3  7:00 am  Sludge Dewatering
Glen Bowan, Roundtable Moderator
57 - 4 7:00 am  **EMS Success Stories**  
William M. Jernigan, Georgia-Pacific Corporation, Roundtable Moderator

57 - 5 7:00 am  **Boiler MACT**  
Heather McHale, Roundtable Moderator

57 - 6 7:00 am  **Making O2 Delignification More Effective**  
Gopal C. Goyal, International Paper, Roundtable Moderator

57 - 7 7:00 am  **Dealing with Evaporator Fouling**  
Christopher L. Verrill, IPST@ Georgia Tech, Roundtable Moderator

57 - 8 7:00 am  **Reducing the Dead Load in Your Recovery Cycle**  
Howard L. Empie, Jr., GeorgiaTech., Roundtable Moderator

57 - 9 7:00 am  **Climate Change**  
Reid A. Miner, NCASI, Roundtable Moderator

57 - 10 7:00 am  **Nutrients & Aeration**  
Robert M. Stein, Aware Environmental Inc., Roundtable Moderator

57 - 11 7:00 am  **Multi-Level Secondary Air**  
Andrew K. Jones, International Paper, Roundtable Moderator

57 - 12 7:00 am  **Primary Air Port Velocity Dampers-Experience with Recent Designs**  
Alarick J. Tavares, Diamond Power, Roundtable Moderator

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**8/31/2005**  
**Session: 58**  
8:30 a.m. - 10:00 a.m.  
**Water Quality Committee Wet Testing**

**Panel Moderator**  
J. David Dean, ENTRIX

**Panelist**  
Jim Pletl, Hampton Roads Sanitation District  
Paul S. Wiegand, NCASI

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**8/31/2005**  
**Session: 59**  
8:30 a.m. - 9:30 a.m.  
**More Effective Enzyme - Assisted Bleaching**

**Session Chair**  
Wei Wang, Potlatch Corporation

59 - 1 8:30 am  **Specificity of Kraft Pulp Bleaching With Xylanase - A Key Factor in Cost Benefit Analysis**  
Michael G. Paice, PAPRICAN, Speaker  
Richard M. Berry, PAPRICAN  
Robert Bourbonnais, Videotron  
Sophie Labonte, Videotron  
Sylvie Renaud, Videotron

59 - 2 9:00 am  **Discovery and Development of Advanced Enzyme Products to meet the needs of the Pulp and Paper Industry**  
Charles W. Hancock, Diversa Corporation, Speaker
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<th>Session</th>
<th>Title</th>
<th>Chair/Authors</th>
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<tr>
<td>8/31/2005</td>
<td>8:30 a.m. - 9:30 a.m.</td>
<td>60</td>
<td>Advances in Liquor Preparation</td>
<td>Session Chair&lt;br&gt;Calvin Clark, BE&amp;K, Inc.</td>
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<td>60 - 1 8:30 am Recent Advances in the Commercialization of NIR (near-Infrared) Based Analyzers in the Pulping and Recovery Area</td>
<td>Russell Hodges, Auburn University, Speaker&lt;br&gt;Gopal A. Krishnagopalan, Auburn University&lt;br&gt;Phillip Woodrow, R. E. Hodges LLC&lt;br&gt;Roy Lightle, Auburn University</td>
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<td>60 - 2 9:00 am Alkali Concentration Control in Cooking Liquor with a New Modular Flow-Through Conductivity Sensor</td>
<td>Dave Joseph, Emerson Process Management, Speaker</td>
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<td>8/31/2005</td>
<td>8:30 a.m. - 10:00 a.m.</td>
<td>61</td>
<td>Maintenance &amp; Mill Engineering II</td>
<td>Session Chair&lt;br&gt;Jerry D. Kahn, JK Consulting</td>
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<td>61 - 2 9:00 am Positive Displacement Reservoir Breathers: An Active Method of Removing Moisture from Hydraulic Fluids</td>
<td>David S. Kolstad, Porous Media, Speaker</td>
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<td>8/31/2005</td>
<td>8:30 a.m. - 10:00 a.m.</td>
<td>62</td>
<td>External and Internal Factors in Gasification</td>
<td>Session Chair&lt;br&gt;Andrew K. Jones, International Paper</td>
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<td>62 - 1 8:30 am The Development and Validation of a Low-Temperature Black Liquor Gasifier Model</td>
<td>Mathias Lindstrom, North Carolina State Univ., Speaker&lt;br&gt;Hasan Jameel, North Carolina State Univ.&lt;br&gt;Adrianna G. Kirkman, North Carolina State Univ.&lt;br&gt;Ved P. Naithani, North Carolina State Univ.</td>
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<td>62 - 3 9:30 am Kinetics of the Direct Causticizing Reaction Between Black Liquor and Titanates During Low Temperature Gasification</td>
<td>Adriaan Van Heiningen, University of Maine, Speaker&lt;br&gt;Edgardo Schwiderke, University of Maine&lt;br&gt;Xiaowen Chen, University of Maine</td>
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8/31/2005 8:30 a.m. - 10:00 a.m.
Session: 63  
Best Practices: A Tool to Reduce Energy Costs Immediately (sponsored by Agenda 2020, Focus on Energy and Center for Technology Transfer)

Panel Moderator
Masood Akhtar, Center for Technology Transfer

63 - 1 8:30 am Need Analysis
David V. Borowski, Wisconsin Focus on Energy, Speaker

63 - 2 8:50 am Bench Marking
David E Null, Jaako Poyry Consulting, Speaker

63 - 3 9:10 am Use Best Practices to Drive Energy Out
Benjamin A. Thorp, Consultant, Speaker

63 - 4 9:10 am TBA
Theodora Retsina, American Process Inc., Speaker

8/31/2005 8:30 a.m. - 9:30 a.m.
Session: 64  
Environmental Considerations for Firing Alternative Fuels (joint Envir/Eng)

Session Chair
Cara J. Kurtenbach, Wausau Paper

64 - 1 8:30 am Investigations into the Variability in and Control of Dioxins Formation and Emissions from Coastal Power Boilers
Vic C. Uloth, PAPRICAN, Speaker
Doreen Mann, USDA Forest Prod. Labs
Karen Scallon, USDA Forest Prod. Labs
Eric Horn, BioPulping International
Louis L. Edwards, University of Idaho

64 - 2 9:00 am Environmental Considerations Related to Firing Petroleum Coke in Lime Kilns
Bill McPherson, DTE Energy Services, Speaker
Michelle Kolozsvary, DTE Energy Services, Speaker

8/31/2005 8:30 a.m. - 10:00 a.m.
Session: 65  
Deinking

Session Chair
Richard A. Venditti, Jr., North Carolina State Univ.

65 - 1 8:30 am New Pulping Strategy for Dip in Tissue Mills
Gerard Galland, Centre Technique Du Papier, Speaker
Benjamin Fabry, Centre Technique Du Papier
Bruno Carre, Centre Technique Du Papier

65 - 2 9:00 am Operational Results of Neutral Deinking for Old Newsprint and Potential Application in Asia-Pacific Recycle Mills
R. Daniel Haynes, Sr., Eka Chemicals Inc., Speaker
Jim S. Merza, Akzo Nobel
John G. Allen, Bowater Pulp & Paper Canada Inc.
Jamie McMullen, Tembec Inc
Myra Fong, Tembec Inc.
65 - 3  9:30 am  Flotation Deinking of Recycled Paper Aided by Electric Field
Jeffery S. Hsieh, Georgia Inst. of Technology, Speaker
Akpojotor Shemi, Georgia Tech

8/31/2005  10:30:am - 12:00:p.m.
Session: 66  Controlling Process Variability

Session Chair
Gopal A. Krishnagopalan, Auburn University

66 - 1  10:30 am  Optimal Kappa Cooking - a Versatile Tool to Improve Both Cost and Fiber Quality Performance of a Bleached Kraft Mill
Daniel Connell, EKA Chemicals Inc., Speaker
AnnBritt Forsstrom, EKA Chemicals AB
Jiri J. Basta, EKA Chemicals AB

66 - 2  11:00 am  On the Relationship Between Pulping Temperature and Kraft Pulp Kappa Uniformity at the Single Fiber Level
Richard R. Gustafson, University of Washington, Speaker
Gauray Rayal, University of Washington
Marianna Arvela, Jaakko Poyry Oy
Jukka Rantamaki, Oy Metsa-Botnia Ab

66 - 3  11:30 am  Process Variability: Laboratory Testing vs. On-line Measurement
Sean M. Smith, Rock Tenn Company, Speaker
Alison C. Rowat, Metso Automation USA Inc.
Keith Shuttlesworth, Rock Tenn Company

8/31/2005  10:30:am - 12:00:p.m.
Session: 67  Breakthrough Technologies: A Tool for Substantial Economic Impact (sponsored by Agenda 2020, Focus on Energy and Center for Technology Transfer)

Panel Moderator
David B. Turpin, MeadWestvaco Corporation

67 - 1  10:30 am  Black Liquor Gasification: The Foundation of the Forest Bio-Refinery “New Value Streams”
Daniel A. Burciaga, ThermoChem Rec. Int'l Inc., Speaker

67 - 2  10:50 am  Engineered Fillers
Vijay K. Mathur, G. R. International, Speaker

67 - 3  11:10 am  Alkaline Sulfite Pulping and its Integration with the RTI Absorption Technology
Hasan Jameel, North Carolina State Univ., Speaker
Ved P. Naithani, North Carolina State Univ.
Mathias Lindstrom, North Carolina State Univ.
Adrianna G. Kirkman, North Carolina State Univ.
Ragubir Gupta, Research Triangle Inst.
Brian Turk, Research Triangle Inst.

67 - 4  11:30 am  Autocausticizing
Saied Kochesfahani, U. S. Borax Inc., Speaker

8/31/2005  10:30:am - 12:00:p.m.
Session: 68  Developments in Causticizing

Session Chair
Michael H. Schofield, Hercules Inc.
68 - 1 10:30 am **Partial Borate Autocausticising Technology - Mill Trial Experiences**
Murray J. Ellis, Carter Holt Harvey, Speaker
Saied Kochesfahani, U. S. Borax Inc.

68 - 2 11:00 am **Correlation between Nodule Size and Residual Carbonate Content in Lime Kilns**
Honghi Tran, University of Toronto, Speaker
Mike Gauthier, DMI Peace River Pulp
Shawn Vollicks, Domtar Inc.

68 - 3 11:30 am **Treatment of Lime Slaker Grit and Green Liquor Dregs - Current Practice**
Dale R. Sanchez, Vector Process Equipment Inc., Speaker
Honghi Tran, University of Toronto

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**8/31/2005**  
**Session: 69**  
**10:30 a.m. - 12:00 p.m.**  
**Oxidative Delignification for Improved Fiber Properties**

**Session Chair**  
Brian N. Brogdon, Kemira Chemicals Inc.

69 - 1 10:30 am **Medium Consistency Oxygen Delignification Performed with a Hydro Dynamics Controlled Cavitation Reactor**
Peter W. Hart, MeadWestvaco Corporation, Speaker
Douglas Mancosky, Hydro Dynamics Inc.
Daniel A Armstead, Hydro Dynamics Inc.

69 - 2 11:00 am **Chemical Modification of Pulp Fibers by Selective Catalytic Oxidation During Oxygen Delignification**
Dongcheng Zhang, IPST @ Georgia Tech, Speaker
Xin-Sheng Chai, Inst. of Paper Science & Tech.

69 - 3 11:30 am **The Influence of Kraft Cooking Conditions on Fiber Charge of the Flowing Peroxide Bleaching**
Zheng Dang, IPST@Georgia Tech, Speaker

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**8/31/2005**  
**Session: 70**  
**10:30 a.m. - 12:00 p.m.**  
**Sorting the Recycled Fibers**

**Session Chair**  
Terry L. Bliss, Process Consultants Inc.

70 - 1 10:30 am **OCC Pulp Quality Improvement at Simpson-Tacoma Kraft Company**
Christopher E. McCarthy, J&L Fiber Service, Speaker
John Hunt, Simpson Tacoma Kraft Company
Kae W. Lee, Simpson Tacoma Kraft Co.
Gregory J. Reiser, Simpson Tacoma Kraft Company
Kenneth A. Coffey, J & L Fiber Services

70 - 2 11:00 am **Development of a Bending Stiffness Sensor for Automated Sorting of Recovered Paper**
Richard A. Venditti, Jr., North Carolina State Univ., Speaker
M. K. Ramasubramanian, North Carolina State Univ.
Kalyan C. Katuri, North Carolina State Univ.

70 - 3 11:30 am **Effect of Fiber Fractionation on Sheet Properties and Drying Behavior**
Hussam Alkhasawneh, Western Michigan University, Speaker
John H. Cameron, Western Michigan University
8/31/2005 10:30:a.m. - 12:30:p.m.
Session: 71  Boiler NOx Issues

Session Chair
Ashok K. Jain, NCASI

71 - 1 10:30 am  **Site-Specific NOx Permit Limit for Burning SOG in a NSPS Subpart Db Power Boiler**
Philip K. Smith, Weyerhaeuser Company, Speaker
Jerry F. Coker, Weyerhaeuser Company

71 - 2 11:00 am  **Low-NOx Conversion of 4 PC Boilers**
Hani Gadalla, RMT Inc., Speaker
Andrew M. Redmond, Weyerhaeuser Company
George Lala, RMT Inc.
Frank Fowler, RMT Inc

71 - 3 11:30 am  **Impacts of Low-NOx Conversion in 4 Coal-Fired Boilers**
Robert E Wilson, Bowater Newsprint Division, Speaker
Tim McNay, Combustion Solutions Inc.

71 - 4 12:00 pm  **Nitrogen Oxide Emissions from Recovery Boilers/Pulp Mills – Scandinavian Perspective**
Esa K. Vakkilainen, Jaakko Poyry Oy, Speaker
Kristiina Iisa, Chalmers Univ. of Technology
Markku J. Pekkanen, Jaakko Poyry OY

8/31/2005 10:30:a.m. - 11:30:a.m.
Session: 72  BL Gasifier Materials

Session Chair
Andrew K. Jones, International Paper

72 - 1 10:30 am  **Materials Issues In Black Liquor Steam Reforming/Gasification**
James R. Keiser, Oak Ridge National Laboratory, Speaker
Robert DeCarrera, Georgia-Pacific Corporation
Bob Rowbottom, Norampac
Bruce Pint, Oak Ridge National Lab

72 - 2 11:00 am  **Fluidized Bed Agglomeration Temperatures as a Function of Impurities Content in Low-Temperature Black Liquor Gasification**
David M. Dunaway, Brigham Young University, Speaker
Larry L. Baxter, Brigham Young University
Dale R. Tree, Brigham Young University

8/31/2005 10:30:a.m. - 12:00:p.m.
Session: 73  Energy Economics Tutorial

Session Chair
Paul M. Tucker, International Paper

Speaker
Theodora Retsina, American Process Inc.

8/31/2005 1:30:p.m. - 2:30:p.m.
Session: 74  Developments in Modified Cooking

Session Chair
Gopal C. Goyal, International Paper
**Bleached Hardwood Pulps by the Soda/AQ and MAQ Processes**
Raymond C. Francis, Empire State Paper Res. Inst., Speaker
Samar Bose, SUNY-ESF
Nam H Shin, Andritz Inc.
Alton Brown, SUNY-ESF
S. Omori, SUNY College of Env. Sci. & Forestry

**The Effect of Integrating Polysulfide Pulping and Black Liquor Gasification on Pulp Yield and Properties**
Mathias Lindstrom, North Carolina State University, Speaker
Hasan Jameel, North Carolina State Univ.
Ved Naithani, North Carolina State University
Adrianna G. Kirkman, NC State University

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**Panel Moderator**
Benjamin A. Thorp, Consultant

**Extracting Value Prior to Pulping**
Thomas E. Amidon, SUNY College Of Forestry, Speaker

**New Value from Residues and Spent Liquor**
Ryan Katofsky, Navigant Consulting, Inc, Speaker
William J. Frederick, IPST @ Georgia Tech, Speaker

**Partnering Opportunities**
Lori A. Perine, American Forest & Paper Assn, Speaker

**Driving Advances in the Pulp and Paper Space Through Third Party Collaboration**
Michael J. McMahon, Johnson Controls, Speaker

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**Bill Babbington Maintenance Roundtable**

**Roundtable Moderator**
Jerry D. Kahn, JK Consulting

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**Safety Tutorial**

**Tutorial Moderator**
David E. White, IPST At Georgia Tech

**Dust Explosions in the Pulp and Paper Industry**
Timothy J. Myers, Exponent Failure Analysis Associates, Speaker

**NFPA 70Em Updated, Electrical Arc Flash**
Jack Bouton Hirschmann, Jr., Oberon Company, Speaker

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**Advances in Ozone Delignification for ECF Sequences**

**Session Chair**
Peter W. Hart, MeadWestvaco Corporation
Eucalyptus Kraft Pulp Bleaching: State-of-the-art and New Developments
Jorge L. Colodette, Federal University of Vicosa, Speaker
Ann Honor Mounteer, Federal University of Vicosa
C. M. Gomes, Federal University of Vicosa
M. S. Rabelo, Federal University of Vicosa
Katia M. Eiras, Federal University of Vicosa

HW Bleach Plant Experiences and Alternatives
Janne Vehmaa, Andritz-Ahlstrom Corporation, Speaker
Olavi E. Pikka, Andritz Oy

Modern Bleaching with Powerful Ozone Bleaching
Solveig Norden, Metso Paper Sundsvall AB, Speaker
Maria Anna Wennerstrom, Metso Paper Sundsvall AB
Sara Eriksson, Metso Paper

Diagnosis of Conditions Contributing to High Fireside Temperatures and Cracking of Primary Air Port Tubes in Kraft Recovery Boilers
Laurie A. Frederick, PAPRICAN, Speaker
Joseph R. Kish, PAPRICAN
Douglas L. Singbeil, PAPRICAN

Reducing Primary Air Port Composite Tube Cracking In A Kraft Recovery Boiler Through Changes In Operation
Joseph R. Kish, PAPRICAN, Speaker
Laurie A. Frederick, PAPRICAN
James R. Keiser, Oak Ridge National Laboratory
Ibrahim Karidio, PAPRICAN
Douglas L. Singbeil, PAPRICAN
Kim Choudhury, Oak Ridge National Laboratory
Francois R. Jette, P.E., Domtar Inc.

Heat Transfer Considerations in Tube Temperature Excursions in Recovery Boilers
Thomas M. Grace, T. M. Grace Company Inc., Speaker
Honghi Tran, University of Toronto