



**2012 TAPPI International Bioenergy & Bioproducts Conference  
(Subject to Change)**

*Note: TAPPI has waived its commercialism guidelines for this conference*

**Wednesday, October 17**

LAST UPDATED: 10/9/12

**1:00 pm - 2:00 pm  
Session 1: Keynote**

Session Chair: **John G. Cowie**, *Agenda 2020 Technology Alliance*

"Succeeding in the Uncertain World of Biofuels"  
**Paul M. Spindler**, *Catchlight Energy*

**2:00 pm - 3:45 pm  
Session 2: Biomass I - Procuring Biomass Feedstocks**

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

"Competitive Advantages in the Production of Lignocellulosic Ethanol: The Importance of Biorefinery Location"  
**Jamie Stephen**, *University of British Columbia*  
**Warren Mabee**, *School of Policy Studies, Queen's University*  
**John N. Saddler**, *University of British Columbia*

"Biomass Procurement Optimization in a Transforming Forest Industry"  
**Jose Melendez**, *NSERC Environmental Design Engineering Chair at Ecole Polytechnique of Montreal*  
**Paul R. Stuart**, *Ecole Polytechnique*

"Dedicated Forest Bio-energy Plantations"  
**Jeffery A. Wright**, *ArborGen*

"The Integration of Sorghum as a Biofuel Species into Cropping System of the Southeastern U.S."  
**Brian T. Scully**, *Crop Protection and Management Research Unit, USDA-ARS*  
**Bill Anderson**, *Crop Protection and Management Research Unit, USDA-ARS*  
**Joe Knoll**, *Crop Protection and Management Research Unit, USDA-ARS*  
**Dawn Olson**, *Crop Protection and Management Research Unit, USDA-ARS*  
**Tim Strickland**, *Crop Protection and Management Research Unit, USDA-ARS*  
**Ted Webster**, *Crop Protection and Management Research Unit, USDA-ARS*

**4:00 pm - 5:30 pm  
Session 3: Bioenergy Policy - Three Perspectives**

*What role can government policies play in the development of bioenergy in the forest products industry in North America? Come and hear three policy experts assess recent bioenergy policy impacts and discuss future priorities for Canadian and US policies. Panelists include representatives of two forest industry public policy organizations (FPAC and AF&PA) and a representative of a major industrial forestland owner. A timely topic for the election seasons in North America.*

Session Chair: **Steven Betzler**, *Minnesota Power Company*

Panelists:  
**Mike Jostrom**, *Director Renewable Resources, Plum Creek*  
**Catherine Cobden**, *Executive Vice President, Forest Products Association of Canada*  
**Paul Noe**, *Vice President for Public Policy, American Forest & Paper Association*

**Thursday, October 18**

**8:00 am - 9:00 am  
Session 4: Keynote**

Session Chair: **John G. Cowie**, *Agenda 2020 Technology Alliance*

"Sustainability Commitment"  
*Buckeye's profitable sustainable growth strategy is a top priority for the company. We know that sustainability must be at the core of everything we do and is part of providing long term value to our shareholders, customers, employees and the communities where we are located. Part of our strategy is to focus on renewable energy and renewable chemicals. This is why we have partnered with the University of Florida with a Bio-Refinery Pilot Plant at our Florida wood specialty fibers facility to study the use of biomass to create renewable chemicals and fuels.*  
**John B. Crowe**, *Buckeye Technologies Inc.*

**9:00 am - 10:00 am  
Session 5: Case Studies I - Bioenergy Projects: Northern Exposure**

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

"Commercializing Cellulosic Biofuels and Bio-based Chemicals"  
*Discover how production of economical and sustainable advanced biofuels and bio-based chemicals offers new markets for the agricultural and forestry industries in the US. This industry is making real progress to bring economical and sustainable advanced biofuels and bio-based chemicals to market.*  
**Tim Eggeman**, *ZeaChem Inc.*

"On-Site Biomass Co-Gen Case Study: Unleashing Power to Create Value for the Wood Products Industry"  
*An on-point case study outlining a successful installation at Seneca Sustainable Energy in Eugene, Oregon.*  
**Robert Yanniello**, *Eaton Corporation*



2012 TAPPI International Bioenergy & Bioproducts Conference  
(Subject to Change)

10:30 am - 12:00 pm

Session 6: Biochemical I - New Technologies to Advance the Sugar Economy

Session Chair: **Frank D. Haagensen, Ph.D.**, Novozymes North America Inc.

"High Efficiency Production of Xylitol from Hemicellulose by Fermentation"

*The process to produce xylitol from hemicellulose is an excellent example of the successful conversion of a low value biomass waste stream to a high value bio-product. The process is capable of using a wide-range of agricultural and forestry waste-streams. The challenges that needed to be surmounted and considerations that needed to be taken in to account will be discussed. The process also presents a business opportunity for those with a hemicellulose waste/side-stream.*

**David Demirjian**, zuChem Inc.

"The BALI Pretreatment Process: Pilot / Demo Phase for Conversion of Biomass to Sugar and Specialty Lignin Streams"

*Individuals with a practical interest in cellulosic sugars for biofuels or biochemicals would be interested in this talk. The take-away will be an understanding of the process and economics from a biomass fractionation process when the lignin fraction is used as a commercial product rather than a low-value fuel. The attendee will also have a much better understanding of Borregaard's specialization strategy that leads to value-added products from wood.*

**Jerry Gargulak**, Borregaard LignoTech

"Single Step Bioprocessing of Biomass to Biohydrogen"

*Hydrogen (H<sub>2</sub>) is considered the "energy of the future" and an ideal alternative fuel to the current energy scenario due to its high energy content (143 MJ/Kg compared to 26.9 MJ/Kg for ethanol, and 43.5 MJ/Kg for gasoline) and non-polluting nature (water is the only end product). The U.S. consumption of H<sub>2</sub> is about 20% of the global H<sub>2</sub> supply or 9 million tons per year, and demand continues to grow. Biological H<sub>2</sub> production offers two major advantages over the steam reforming process of fossil fuels (currently the predominant production method) in that 1) it utilizes renewable sources, and 2) it produces very no net level of CO<sub>2</sub>.*

**Lew P. Christopher, PhD PE**, South Dakota School of Mines and Technology

**Mohan Raj Subramanian**, South Dakota School of Mines and Technology

**Suvarna Talluri**, South Dakota School of Mines and Technology

1:30 pm - 3:00 pm

Session 7: Biochemical II - Recent Advances in Enzymatic Saccharification

Session Chair: **Lew P. Christopher, PhD PE**, South Dakota School of Mines and Technology

"Next Generation Enzymes for Biorefinery Applications"

*This talk will educate the audience about the current state of cellulase enzymes for breaking down woody biomass for the production of bioproducts such as ethanol. Anyone interested in developing value-added products from biomass will learn that generating sugars from lignocellulosic material using enzymes is no longer cost-prohibitive.*

**Frank D. Haagensen, Ph.D.**, Novozymes North America Inc.

"Distinct Roles for Residual Xylan and Lignin in Limiting Enzymatic Hydrolysis of Organosolv Pretreated Loblolly Pine and Sweetgum"

*Attendees will learn to distinguish the different roles of xylan and lignin in enzymatic hydrolysis of pretreated woody biomass. This is very important for designing a cost-effective process for biomass pretreatment and enzymatic hydrolysis.*

**Maobing Tu**, Auburn University

**Mi Li**, Auburn University

"Cationic Polyelectrolytes Enhance Cellulose Saccharification"

*It is a well known fact that the production of biofuels has increased significantly over the past decade. In spite of having several advantages biofuels still struggle to compete with conventional fuels. Reducing the enzyme cost or increasing the glucose production would be one of the optimum ways to decrease biofuels cost or increase production respectively. In this presentation, different ways of achieving this goal by using cationic polymers will be shown. The audience will get an in-depth knowledge on the ways this mechanism works with different feedstocks that are commonly used or waste produced by paper industries and also on economic of the current project.*

**R. Daniel Haynes, Sr.**, EKA Chemicals Inc.

**Sandeep Mora**, IPST, Chemical and Biomolecular Engineering, Georgia Tech

**Sujit Banerjee**, IPST @ Georgia Tech

Session 8: Bioenergy Projects

Session Chair: **Matt W. Worley**, Harris Group Inc.

"Key Learnings from Tracking Biomass Projects"

*The presentation will address key learnings from tracking bioenergy projects, specifically elements of successful projects versus risky projects. Attendees will learn how to track bioenergy projects and will learn how to distinguish risky ventures from those likely to succeed. Understanding woody biomass project development is critical to firms making strategic business investments.*

**Amanda H. Lang**, Forisk Consulting

**Brooks Mendell**, Forisk Consulting

"Bioenergy Market Penetration in Southeastern States: A Five-Year Review of All Woody Biomass Energy Forms"

*The results of this Southeast regional bioenergy progress report and industry assessment will be useful to all segments of the biomass consuming industries, and will be of interest to stakeholders and policymakers nationwide. Certain bioenergy industries are growing, others are not. I will offer lessons learned for those attempting to develop new bioenergy facilities.*

**John Bonitz**, Southern Alliance of Clean Energy

"Review of the joint Navy/USDA/DOE Advanced Biofuels Initiative"

**Zia Haq**, US Department of Energy



**2012 TAPPI International Bioenergy & Bioproducts Conference  
(Subject to Change)**

**3:30 pm - 5:30 pm**

**Session 9: Thermochemical I - Experiences in Thermochemical Processing**

Session Chair: **Cal Clark**, KBR

"Biomass to Transportation Fuels via the IH2 Technology"

*Production of renewable transportation fuels via IH2 technology from pulp and paper industry low value materials such as slash, round wood, mill sludge, etc. provides additional benefits through integration such as high pressure steam, and char which can be used to meet existing energy requirements with the proper configuration. An ability to increase site margin through more complete use of residual materials resulting in useful co-products like steam and char, as well as a renewable fuel which can be sold to meet the Renewable Fuel Standard 2 (RFS-2) mandate are expected to be of interest.*

**Mike Demaline**, CRI Catalyst Company

"Black Liquor Gasification Derived Biofuel - Experiences from Production, Distribution and Truck Fleet Use of BioDME"

*Pulp and paper mill operators will get a real-life example of successful application of biofuels production integrated with pulp production and the use of this biofuel in transport applications. This can inspire and form the basis for studies of full-scale opportunities at additional pulp mills*

**Patrik P H Lowmertz**, Chemrec AB

**Ingvar Landalv**, Chemrec AB

"Progress on Commercializing Valuable Chemicals and Quality Fuels from Woody Materials."

*Attendees will gain a better understanding of technical and commercial opportunities for wood-based feedstocks. The presenter will also help the audience gain a deeper understanding of the progress being made on disruptive supply chains using forest materials as a feedstock.*

**Andrew M. Held**, Virent Inc.

"Torrefaction Process Plant Design"

*Learn about the technologies for torrefaction which are receiving significant investment of resources. One of the technologies is a pressurized torrefaction system combining Andritz and ECN thinking.*

**Brian F. Greenwood**, Andritz Inc.

**3:30 pm - 5:00 pm**

**Session 10: Advances in Bioproducts**

Session Chair: **Seth Barna**, American Chemistry Council

"Update from the Field: Fast Pyrolysis Commercialization and Biorefinery Demo Status"

*Attendees will learn the benefits and economics of utilizing liquid biofuel from fast pyrolysis to generate renewable energy. They will be updated on the commercial status of RTP and the DOE Integrated Biorefinery Demo that is currently running in Hawaii. Finally, an update on upgrading of pyrolysis oil to transportation fuels will be given.*

**Paula Flowers Hassett**, Envergent Technologies, a Honeywell Company

"Comparison of the LignoBoost and SLRP Lignin Recovery Processes"

*The content of the paper relates to several issues that are of interest to the industry: Dobbottlenecking of recovery boilers, Addition of a revenue stream from the sale of lignin, Development of sustainable, and renewable paths to chemical products. The primary focus is a technical and economic comparison of the two leading approaches to lignin recovery. Those who attend will leave with a better understanding of the status of these two processes and the major differences between them.*

**Charles Gooding**, Clemson University

Cancelled

**Stephanie Harris**, University of Minnesota/BBE

"Biorefining Pine Chemicals: Science, Policy, and Innovation"

**Alan Phillips**, Arizona Chemicals

**Friday, October 19**

**8:00 am - 9:30 am**

**Session 11: Thermochemical II - Building a Better Biorefinery**

Session Chair: **Matt Worley**, Harris Group Inc.

"Value-Chain Planning for Pulp and Paper Mills Transforming to the Forest Biorefinery - A Case Study"

*In this paper, an integrated value-chain planning framework is presented. A case study of a newsprint mill implementing a parallel biomass fractionation line producing several biochemicals is used to illustrate this value-chain approach. Results and benefits of the approach are presented for the traditional pulp and paper business and for the transformed biorefinery.*

**Louis Patrick Dansereau**, Ecole Polytechnique

**Mahmoud El-Halwagi**, Texas A&M University

**Paul Stuart**, Ecole Polytechnique

"Techno-economic and Opportunity Assessment of Future Biorefinery Concepts – Future Biorefinery Program of Finnish Forestcluster Ltd"

*The presentation focuses on methods and case study analyses of wood-based biorefineries at pre-commercial development level (or future biorefinery concepts). Many important aspects of the future biorefinery will be covered that forest industrial companies should account for in their early stage decision making related to biorefinery. Therefore, someone attending this presentation will get insight into one possible comprehensive methodology for biorefinery value chain analysis. Also, the potential of supporting experimental R&D work by different value chain, process, and risk analyses will be discussed through the case studies that will be presented.*

**Ville E. Hytonen**, VTT Technical Research Centre of Finland

**Katja M. Bergroth**, Poyry Management Consulting Oy

**Juha Hakala**, VTT Technical Research Centre of Finland

**Hanna Kalanne**, GloCell Oy

**Petteri Kangas**, VTT Technical Research Centre of Finland

**Jesse Kautto**, JP Management Consulting

**Jukka Seppänen**, GloCell Oy

"Controlling the Cost of Next Generation Biorefineries"

**Matt W. Worley**, Harris Group Inc.



2012 TAPPI International Bioenergy & Bioproducts Conference  
(Subject to Change)

10:00 am - 11:00 am

Session 12: Case Studies II - Biorefineries for Industry Transformation

Session Chair: **Zia Haq**, US Department of Energy

"Identification of Promising Integrated Forest Biorefinery Strategies at Early-Stage Design: Techno-Economic Analysis"

*For someone who is interested in integrating biorefinery into the pulp and paper industry, this work shows how the economic performance of the candidate biorefinery strategies can be assessed (techno-economic analysis). Attendees will also learn the decision criteria to use when identifying promising biorefinery strategies. Finally, discover how MCDM panel as a decision making tool can combine conflicting criteria into a unique economic score for each biorefinery candidate.*

**Shabnam Sanaei**, Ecole Polytechnique de Montreal

**Paul R. Stuart**, Ecole Polytechnique

"Advanced Cost Analysis of Plant-Wide Operations Using Real-Time Process Data"

*This presentation defines a new and practical methodology that TAPPI mill members can employ to better understand their operations, and design cost saving opportunities in both the short- and longer-terms.*

**Paul R. Stuart**, Ecole Polytechnique

**Milan Korbel**, Ecole Polytechnique

IBBC Poster Session

(Posters will be available in the trade fair area throughout the conference)

"Upgrading of Pyrolysis Oil by Hydroprocessing in a Packed Bed Flow Reactor"

**Venkata Penmetsa**, Mississippi State University

**Divya Parapati**, Mississippi State University

"Low pH Microbial Fuel Cell Systems"

**Venkataramana Gadhamshetty**, Rensselaer Polytechnic Institute

"Algal-Microbial Desalination Cells for Clean Energy, Water, and Biomass Production"

**Bahareh Kokabian**, Mississippi State University

**Veera Ganeswar Gude**, Mississippi State University

"Utilizing Renewable Energy to Produce "Renewable Biodiesel Fuels"

**Edith Ortiz Martinez**, Mississippi State University

**Veera Ganeswar Gude**, Mississippi State University

"Fast and Easy Algal Biodiesel Production by Ultrasonic and Microwave Processing"

**Georgene Elizabeth Grant**, Mississippi State University

**Veera Ganeswar Gude**, Mississippi State University

"Biogas from Agriculture Residues & Waste"

**Kolluru Krishan**, MPPL Renewable Energy Pvt. Ltd.

Cancelled

**Bujanovic Biljana**, SUNY-ESF College

"Liquid Lignin as Fuel"

**Michael Lake**, Liquid Lignin Company

"Combined Heat and Power: An Untapped Resource"

**Adam Young Zoet**, Dovetail Partners Inc.

"Hot Water Extraction with pH Control and Subsequent Kraft Pulping of Pine Wood Chips"

**Allen Smith**, Auburn University

**Gopal Krishnagopalan**, Auburn University

**Harry Cullinan**, Auburn University