



59th SWST International Convention

FOREST RESOURCE AND PRODUCTS: MOVING TOWARD A SUSTAINABLE FUTURE

In Cooperation with APRE (Associação Paranaense de Empresas de Base Florestal),
II Expo Wood & Construction, and EBRAMEM (Encontro Brasileiro em Madeiras e em
Estruturas de Madeira) XV Symposium Wood & Construction

MARCH 6-11, 2016 ▶ CURITIBA, BRASIL



Sunday, March 6

- 18:00-20:00** Evening Welcome Reception, Opening Ceremony and Awards Presentation
Bourbon Curitiba Convention Hotel
(All technical presentations, March 7-10, held at Salão de Atos, Parque Barigüi)

Monday, March 7

- 8:00-8:15** Welcome to the Conference by Conference Co-Chairs - Sudipta Dasmohapatra, North Carolina State University, USA; and Carlos Mendes, APRE, Brasil
- 8:15-9:00** Keynote - Juscelino Portela, Portela Woods, Brasil
Status of the Wood Industry in Brasil
-
- 9:00-12:00** **Lignocellulosic Materials Science Session**
Moderators David DeVallance, West Virginia, USA; and Andreja Kutnar, University of Primorska, Slovenia
-
- 9:00-9:20** José Couceiro, Luleå University of Technology, Sweden
In situ CT-scanning of Checking and Collapse Behaviour of Eucalyptus itens during Drying
- 9:20-9:40** David DeVallance, West Virginia University, USA
Influence of Processing Parameters on the Piezoresistivity of Bio-based Carbon Sensor Material
- 9:40-10:00** Benedikt Neyses, Luleå University of Technology, Sweden
Development of a Continuous Wood Surface Densification Process
- 10:00-10:20** Gloria Oporto, West Virginia University, USA
Nanofibrillated Cellulose from Appalachian Hardwoods: Red Oak (*Quercus rubra*) and Yellow Poplar (*Liriodendron tulipifera*) as Template for Copper Nanoparticles
- 10:20-10:40** COFFEE BREAK
- 10:40-11:00** Jacob Owoyemi, Federal University of Technology, Nigeria
Physico-Mechanical Properties of Thermally Modified *Gmelina arborea* (Roxb.) Wood
- 11:00-11:20** Ilona Peszlen, North Carolina State University, USA
Two-stage Fungal Pretreatment of Genetically Modified *Populus trichocarpa* with White-rot Fungus, Ceriporiopsis Subvermispora, and Brown-rot Fungus, Postia Placenta
- 11:20-11:40** Morwenna Spear, Bangor University, United Kingdom
Mild Thermal Modification to Add Value to UK Grown Larch Monitoring Quality, Physical Properties, and Benefits
- 11:40-12:00** H. Michael Barnes, Mississippi State University, USA
Properties of Southern Pine Modified with Melamine Formaldehyde

59th SWST International Convention, March 6–11, 2016
FOREST RESOURCE AND PRODUCTS: MOVING TOWARD A SUSTAINABLE FUTURE



Monday, March 7 *continued*

12:00–13:00	LUNCH
13:00–14:30	Bio-Composites Session Moderators Jerrold Winandy, University of Minnesota, USA; and Rupert Wimmer, BOKU Vienna, Austria
13:00–13:20	Paige McKinley, Oregon State University, USA Multi-scale Investigation of Adhesive Bond Durability
13:20–13:40	Jacob Owoyemi, Federal University of Technology Akure, Nigeria Evaluation of the Physical and Mechanical Properties of Composite Board Produced from Banana Stalk (<i>Musa sapientum</i>) and Pozzolan
13:40–14:00	Johann Trischler, Linnaeus University, Sweden The Influence of Adhesive Application on Bonding Properties in Particleboard and Plywood Production – The Use of Wheat Protein as Binder
14:00–14:20	Rupert Wimmer, BOKU Vienna, Austria Connecting Wood and 3D printing
14:20–14:30	Discussion
14:30–14:45	COFFEE BREAK
14:45–16:45	Marketing, Policy & Strategy Session Moderators Wellington Spetic, University of Minnesota, USA; and Paulo Pires, Universidade Federal do Paraná, Brasil
14:45–15:05	Karen Bayne, New Zealand Forest Research Institute (SCION), New Zealand The Environment for Innovation within the New Zealand Forest Sector
15:05–15:25	Kendall Conroy, Oregon State University, USA Roadblocks, Hurdles, and Glass Ceilings: The Female Executive Perspective
15:25–15:45	Eric Hansen, Oregon State University, USA Lingering Impacts of the Global Financial Crisis: Innovativeness of US Forest Sector Manufacturers
15:45–16:05	Andreja Kutnar, University of Primorska, Slovenia Public Perceptions of Wood as Building Material
16:05–16:25	Oghenekevwe Ohwo, Delta State University, Nigeria Market Integration of <i>Halea ciliata</i> Species of Sawn-wood in Delta State, Nigeria
16:25–16:45	Henry Quesada-Pineda, Virginia Tech, USA Measuring Effectiveness of Kaizen Events within the Wood Products Industry

Tuesday, March 8

8:00–12:00	Chemistry and Forest Products Utilization Session Moderators Gloria Oporto, West Virginia University, USA; and Flavio Geraldo, Lonza, Brasil
8:00–8:20	Lawrence Aguda, Forestry Research Institute of Nigeria, Nigeria Efficacy <i>Gliricidia sepium</i> Heart Wood Extractives as Preservatives against Fungi Attack
8:20–8:40	Charles Frihart, US Forest Products Laboratory, USA Potential for Biobased Adhesives in Wood Bonding
8:40–9:00	Jerrold Winandy, University of Minnesota, USA Relating Changes in Wood Chemistry to Strength



Tuesday, March 8 *continued*

- 9:00–9:20 Francisca Maria Figueiredo Teles, Universidade Federal do Acre-Ufac, Brasil
Aspects of the Quality Management in the Tropical Joinery Sector: A Case Study in Rio Branco, State of Acre-Brasil, 2013
- 9:20–9:40 M. Sarwar Jahan, BCSIR, Bangladesh
Pulping of Gamari (*Gmelina arborea*) and Rubber Root
- 9:40–10:00 Svetka Kuljich, Laval University, Canada
Chip Formation Studied by High Speed Photography during Log Fragmentation by a Chipper-canter
- 10:00–10:20 COFFEE BREAK
- 10:20–10:40 Laura Moya, Universidad ORT, Uruguay
Proposal of Visual Grading Rules for Uruguayan Loblolly and Slash Pine Timber
- 10:40–11:00 Vanesa Baño, Universidad de la República, Uruguay
Structural Calculation with Timber in Uruguay: Proposal for a National Annex to Eurocode 5
- 11:00–11:20 Tâmara Suely, Filgueira Amorim França, Mississippi State University, USA
Visual and Mechanical Properties of Southern Pine No.2 Lumber
- 11:20–11:40 Frederico José Nistal França, Mississippi State University, USA
Nondestructive Assessment of Southern Pine No.2 Lumber
- 11:40–12:00 Richard D. Bergman, US Forest Products Laboratory, USA
Gate-to-gate Life-cycle Inventory Analysis on Carbon Activation of Biochar
- 12:00–12:20 Arsenio Ella, Forest Products Research and Development Institute, Philippines
Identification of Naturally Grown Philippine Teak (*Tectona philippinensis Benth.&Hook.f.*) Based on Morphological and Wood Anatomical Features
- 12:30–13:30 LUNCH (Business Meeting - 13:00–13:30)

13:45–15:45 **Biomass and Bioenergy Session**
Moderators Jingxin Wang, West Virginia University, USA; and Alex Berg, University of Concepcion, Chile

- 13:45–14:05 Alex Berg, University of Concepcion, Chile
Biomass as an Energy Source in Chile
- 14:05–14:25 Richard Bergman, US Forest Products Laboratory, USA
Estimating GHG Emissions of Field-applying Biochar Pellets
- 14:25–14:45 Weiguo Liu, West Virginia University, USA
Integrated Techno-Economic and Life Cycle Analyses of Biomass Utilization for Biofuels and Bioproducts
- 14:45–15:05 Eini Lowell, USDA Forest Service, PNW Research Station, USA
Biofuels from Forest Residuals – What is on the Minds of Stakeholders?
- 15:05–15:25 Stephen Mitchual, University of Education Winneba, Ghana
Briquettes: An Alternative to Firewood and Charcoal as a Domestic and Industrial Fuel in Ghana
- 15:25–15:45 Ina Winarni, Centre of Research and Development of Forest Products, Indonesia
Mechanical Separation of Vascular Bundle and Parenchym of Oil Palm Trunk for Optimizing the Bioethanol Production
- 15:45–16:00 COFFEE BREAK

16:00–18:30 **Poster Session and Student Poster Competition**
Moderator Manja Kuzman, University of Ljubljana, Slovenia

Ifedayo Adeniyi, Forestry Research Institute of Nigeria, Nigeria
Efficacy of Vegetable Oils in Wood Histology



Tuesday, March 8 *continued*

**Lawrence Aguda, Forestry Research Institute of Nigeria, Nigeria
Efficacy *Gliricidia sepium* Heart Wood Extractives as Preservatives against Fungi Attack

Gloria Aguruwa, Forestry Research Institute of Nigeria, Nigeria
Quality of Tannin Extracted from Stem Bark of some Deciduous Tree Species and its Potentials as a Source of Wood Varnish

Ajayi Alex, Ajigbon Federal Polytechnic Ado-Ekiti, Nigeria
Mechanical Properties of Eight Wood Species Grown in Nigeria

**Stephen Amiandamhen, University of Stellenbosch, South Africa
Effect of Barks on the Physical and Mechanical Properties of Phosphate Bonded Wood Composites of Black Wattle (*Acacia mearnsii*)

Xinxin An, International Center for Bamboo and Rattan, China
Radial variation in Crystallite Size and Crystallinity Index in Cellulose of Moso Bamboo

Mario Bulhões, Universidade Federal da Bahia - UFBA, Brasil
Development of Bio Composites of Eucalyptus Wood Sawdust and Latex

Fernanda Costa, Universidade Federal do Acre-Ufac, Brasil
Opportunities and Challenges for the Adoption of Glued Laminated Bamboo (*Guadua weberbaueri*) in Joinery Sector acting in the State of Acre-Brasil, 2015

I Wayan Darmawan, Bogor Agricultural University, Indonesia
Juvenile and Mature Wood Characteristics of Selected Perhutani and Community Teak

Victor Almeida De Araujo, University of São Paulo, Brasil
Problems and Possible Solutions to the Wood Waste from the Wooden Housing Production in Brasil

Charles Edmunds, North Carolina State University, USA
Characterization and Enzymatic Hydrolysis of Genetically Modified *Pinus taeda* with Decreased Lignin Content and Incorporated Syringyl Lignin

Tâmara Suely Filgueira Amorim França, Mississippi State University, USA
Natural Durability of Two Species of African Mahogany Planted in Brasil Against Termite Attack

Charles Frihart, US Forest Products Laboratory, USA
Soy Products for Wood Bonding

Rado Gazo, Purdue University, USA
The U.S. Value-added Wood Product Sector and Certification Over Time: 2001, 2007, and 2014

Eva Haviarova, Purdue University, USA
School Furniture Made of Sustainable Resources – Lessons Learned in the Developing World

**Annika Hyytiä, University of Helsinki, Finland
Sustainable Development – International Framework – Overview and Analysis in the Context of Forests and Forest Products – Ecosystem Services and Competitiveness in the Bio-economy

Claudia Ibañez, Universidad de la República, Uruguay
Natural Durability of Wood from Two Species of Eucalyptus: *E. bosistoana* and *E. sideroxyton*

Gaurav Kakkar, Virginia Tech, USA
Assessment of Pre-fabricated Wooden Homes as an Affordable Housing Alternative for Low Income Households

Abolfazl Kargarfard, Research Institute of Forests and Rangelands, Iran
The Influence of Fiber Quality and Content on Flat Pressed Polypropylene/TMP Fiber Composite

Manja Kitek Kuzman, University of Ljubljana, Slovenia
Understanding Eco-innovation in Slovenia



Tuesday, March 8 *continued*

Jin Heon Kwon, Kangwon National University, Republic of Korea

Three Grades of Liquid Urea-formaldehyde (UF) Resins with Different Formaldehyde Emission Levels such as Super EO (SEO)

**Paige McKinley, Oregon State University, USA

Multi-scale Investigation of Adhesive Bond Durability

**Priscilla Morris, North Carolina State University, USA

Factors Contributing to Business Success of Forest Products Industry in Coastal Communities Affected by Climate Change

Frederico José Nistal França, Mississippi State University, USA

Nondestructive Assessment of *Eucalyptus grandis* vs *Eucalyptus urophylla*

**Oluwatosin Oginni, West Virginia University, USA

Activated Carbons from Herbaceous Bioenergy Crops

Henry Quesada-Pineda, Virginia Tech, USA

Sustainability Factors Leading to Advanced Biofuel Cellulosic Project Success

Ricardo Teles, Brasilia Federal Institute of Education, Science and Technology, Brasil

Effect of Preservative Treatment on the Velocity Propagation of Ultrasonic and Stress Waves in Brazilian Hardwoods

Penglian Wei, International Center for Bamboo and Rattan, China

Analysis of Chemical Composition and Distribution of Moso Bamboo Fiber Cell Wall Based on Raman Spectra

Lili Yu, Tianjin University of Science and Technology, China

Effects of Boric Acid/Borax Treatments on the Fire Resistance of Bamboo Filament

** indicates participation in Student Poster Competition

Wednesday, March 9

Conference Tour - Sustainable Wood Structures and Culture in Curitiba (Separate \$50 charge - not included in registration fee)

Thursday, March 10

8:00–12:00 Sustainable Wood Construction Session - Moderators Sudipta Dasgupta, North Carolina State University, USA; and Carlito Calil, Universidade de São Paulo, Brasil

**8:00–8:30 Victor Almeida De Araujo, University of São Paulo, Brasil
Wood Waste Generated by the Wooden Housing Manufacturers in the Brazilian State of São Paulo**

**8:30–9:00 Jorge Daniel, De Melo Moura Londrina State University, Brasil
Facing the Challenges on Wooden Construction in Paraná State - Brasil**

**9:00–9:30 Manja Kitek Kuzman, University of Ljubljana, Slovenia
Comparison of Timber House Technologies in Slovenia and Sweden**

**9:30–10:00 Andreja Kutnar, University of Primorska, Slovenia
InnoRenew CoE - Renewable Materials and Healthy Environments Research and Innovation Centre of Excellence - Innovative Renewable Material Uses Living Laboratory (LL InnoRenew)**

59th SWST International Convention, March 6–11, 2016
FOREST RESOURCE AND PRODUCTS: MOVING TOWARD A SUSTAINABLE FUTURE



Thursday, March 10 *continued*

10:00–10:30	Florian Rebstock, Luleå University of Technology, Germany Inclined Five-layer Cross Laminated Timber Panels with Varying Lamella Angle Loaded in Shear - A Linear Elastic Orthotropic Finite Element Study
10:30–11:00	COFFEE BREAK
11:00–11:30	Pedro Moreira, Tecverde, Brasil Pre-manufactured Light Wood Frame House Construction in Brasil
11:30–12:00	Ebramem speaker
12:00–13:00	LUNCH

13:00–15:30	Early Stage Researcher Session Moderators Paige McKinley, Oregon State University, USA
-------------	---

13:00–13:15	Jerry Adutwum, Forestry Research Institute of Ghana, Ghana The Physical Properties Variation Within and Between the Sapwood and Heartwood of <i>Pterocarpus erinaceus</i> (Poir)
13:15–13:30	Stephen Amiandamhen, University of Stellenbosch, South Africa Effect of Barks on the Physical and Mechanical Properties of Phosphate Bonded Wood Composites of Black Wattle (<i>Acacia mearnsii</i>)
13:30–13:45	Annika Hyytiä, University of Helsinki, Finland Sustainable Development - International Framework - Overview and Analysis in the Context of Forests and Forest Products - A Policy Point of View with the CSR
13:45–14:00	Xinxin Ma, International Center for Bamboo and Rattan, China Flexural Creep Behavior of Bamboo (<i>Phyllostachys pubescens</i>) in its Radial Direction
14:00–14:15	Priscilla Morris, North Carolina State University, USA Forest Landowners' Assessment of Climate Change Risk in Coastal North Carolina
14:15–14:30	Roger Moya, Instituto Tecnológico de Costa Rica, Costa Rica The Use of Daily Drying Rate to Decrease in Kiln Drying Time of Juvenile <i>Tectona grandis</i> L. Wood
14:30–14:45	Camila Numazawa, University of São Paulo, Brasil Comparison of Life-cycle GHG Emissions for Pig Iron Production using Coal and Charcoal Based on a Simplified LCA
14:45–15:00	Oluwatosin Oginni, West Virginia University, USA Activated Carbons from Herbaceous Bioenergy Crops
15:00–15:15	Leandro Passarini, US Forest Products Laboratory, USA Fiber Saturation Point of Acetylated Loblolly Pine Wood Examined by Differential Scanning Calorimetry
15:15–15:30	Discussion and Questions
15:30–17:00	II Expo Wood and Construction - Renault Expo Center, Parque Barugi

18:30–20:00	Closing Ceremony and Banquet - KF Grill Churrascaria
-------------	---
