Biocomp 2016
The 13th Pacific Rim Bio-Based Composites Symposium
Bio-based composites for a sustainable future
November 13th to 15th, 2016 - Concepción - Chile

SCHEDULE

SUNDAY, NOVEMBER 13TH

18:00	Registration and Welcome drink (UDT)

MONDAY, NOVEMBER 14TH

08:00 – 09:00	Registration	
09:00 – 09:40	Opening ceremony **Alex Berg** - Executive Director Technological Development Unit, UDT. **Carlos González** - Vice-rector of Research and Development, University of Concepción. **Roger M. Rowell** - Professor Emeritus of the University of Wisconsin, Madison, United States.	
09:40 – 10:30	**PLENARY SESSION** **Andreas Michanickl, University of Applied Sciences Rosenheim, Germany.** **"Wood-Based-Panels and Composites – Challenges and Perspectives for the Future".**	
10:30 – 11:00	Coffee	
11:00 – 11:40	**SESSION 1: BIOCOMPOSITES I** **Keynote: Shigehiko Suzuki, Shizuoka University, Japan.** **"Elements of wood-based material research from lamina to nano".**	**SESSION 2: ADHESIVES AND BONDING** **Keynote: Warren Grigsby, SCION, New Zealand.** **"Interfacial Adhesion Behaviors within Natural Fiber Composites: A View at Fiber Level".**
11:40 – 12:05	The Use of X-Ray Computed Tomography in Bio-Composite Research. José Couceiro, Luleå University of Technology, Sweden.	Mecanical Performance of Glue Jointd in Structural Hardwod Elements. Peter Niemz, ETH Zurich, Institute for Building Materials, Switzerland.
12:05 – 12:30	A New Biobased Composite Material Using Bark Fibres *Eucalyptus*. Cecilia Fuentealba, Unidad de Desarrollo Tecnológico, Chile.	Environmental friendly natural resins from polyphenolic extracts: Perspectives and challenges Jorge Santos Ucha, Unidad de Desarrollo Tecnológico, Chile.
12:30 – 12:55	Changes in Mechanical and Surface Properties of Medium Density Fiberboards and Particleboards with Accelerated Aging Test. Sahriyanti Saad, Shizuoka University, Japan.	Wood-Straw Composites Bonded with Urea Formaldehyde Glue Modified by Ethanol. Emilia-Adela Salca, Transilvania University of Brasov, Romania.
13:00 – 14:00	Lunch	
14:00 – 14:40	**SESSION 3: BIOCOMPOSITES II** **Keynote: Andreja Kutnar, University of Primorska, Slovenia.** **"Traditional and Innovative Wood-Based Bioproducts".**	**SESSION 4: BIOPLASTICS** **Keynote: Danny García Marrero, UCSC, Chile.** **"Polycarboxylated Flavonoid Oligomers as Functional Additives for Polylactic Acid-, Polystyrene-, and Polyethylene-Based Composites".**
14:40 – 15:05	Continuous Wood Surface Densification – Chemical Treatments to Reduce the Set-Recovery. Benedikt Neyses, Luleå University of Technology, Sweden.	Lignin-Ester Derivative as Matrix for Composites Elaboration by Press Moulding. Jalel Labidi, University of the Basque Country, Spain.
15:05 – 15:30	Wood preservatives utilising low-value olive production products in Slovenian Istria. Matthew Schwarzkopf, University of Primorska, Slovenia.	Bio-Based Polymer Pellets and Films Derived from Agro-Industrial Residues. Jesús Serrano, Center for Advanced Polymer Research (CIPA), Chile.
15:30 – 15:55	Performance of Medium Density Fibreboards Prepared with Recycled Fibers. Byung-Dae Park, Kyungpook National University, Republic of Korea.	Supercritical Impregnation of Cinnamaldehyde into PLA Films to Develop Antimicrobial Food Packaging Materials. Carolina Villegas Vallejos, University of Santiago de Chile, Chile.
15:55 – 16:40	**COFFEE & POSTER SESSION**	
16:40 – 17:05	Electrospun Nanofibers Using Whole Microalgal Biomass: A Novel Sustainable Approach in the Field of Biobased Composite Materials. Sivashunmugam Sankaranarayanan, Universidad de La Frontera, Temuco, Chile.	Adhesive Forces Acting Between the Components of Wood-Plastic Composites on Molecular and Macroscopic scale. Bernard Effah, Stellenbosch University, South Africa.
17:05 – 17:30	Novel Biocomposite Based on Chitosan - *Sphagnum magellanicum* Fibers. Gustavo Cabrera, Centro de Investigación, Desarrollo e Innovación (CIDI), Grupo Hijuelas, Chile.	A novel hydrocolloid wound dressing based on pectin, starch and bioactive extracts of Chilean native plants . Constanza Sabando, Center for Advanced Polymer Research (CIPA), Chile.
20:00	**PARRILLADA (CHILEAN BARBECUE - Club House Victoria)** Free for full registration participants. Others attendees $30.000 / USD 45	

TUESDAY, NOVEMBER 15TH

09:30 – 10:10	**SESSION 5: FIBER REINFORCED PLASTICS** **Keynote: John Wolodko, Alberta Innovates, Canada.** **"An Overview of Materials R&D Activities in Alberta's Bioresource Sector".**	**SESSION 6: BIOCOMPOSITES RESEARCH IN INDUSTRY** **Keynote: James Hague, Australian Forest Research Company Pty Ltd, Australia.**
10:10 – 10:35	Study of Macro Algae and Mollusc Wastes as Secondary Fillers in Novel Wood-Plastic Bio-composite Particleboard. Claudia Echeverria, University of New South Wales, Australia.	Industrial experience regarding natural and low emision adhesives Esteban Ramírez, Innovation Manager, Research and Development, MASISA S.A.
10:35 – 11:00	Experimental study of the effect of organic powder in a composite matrix of Fiber Reinforced Plastics (FRP). Katherine Sanhueza, Universidad de La Frontera, Chile.	Cellulose microfibrilles: From the laboratory to industrial scale. Dr. Eduardo Izquierdo, Director Research and Development COMASA S.A., Forestal y Papelera Concepción.
11:00 – 12:20	**COFFEE & POSTER SESSION**	
12:20 – 12:45	Novell Compounding Process for Utilizing TMP-Fibers in Wood-plastic Composites. Oliver Mertens, University Hamburg, Germany.	Adaptation and transference of high standard timber frame construction. Carla Chávez, Polo Madera Program, Universidad de Concepción, Chile.
12:45 – 13:10	Steam Explosion as a Treatment of Hemp Fibers (*Cannabis Sativa L.*) for Production of Composite Materials. Thibaud Sauvageon, Université de Lorraine, France.	"WOODEN CONNECTION" Embracing territories through architecture and design Susana Herrera, Factoría.
13:10 – 14:30	Lunch	
14:30 – 15:10	**SESSION 7: CARBON BASED MATERIALS** **Keynote: Juan Matos Lale, Unidad de Desarrollo Tecnológico, Chile.** **"Eco-Friendly Methodology for the Synthesis of Graphene-Based Catalytic Membrane Reactors I".**	**SESSION 8: MODIFIED WOOD COMPOSITES** **Keynote: Roger M. Rowell, University of Wisconsin – Madison, USA.** **"From Academic to Commercial: Story of Acetylation of Wood".**
15:10– 15:35	Keynote: Juan Matos Lale, Unidad de Desarrollo Tecnológico, Chile. "Eco-Friendly Methodology for the Synthesis of Graphene-Based Catalytic Membrane Reactors II".	Esterified Lignin as Hydrophobic Agent for Use on Wood Products. René Herrera Díaz, University of the Basque Country, Spain.
15:35 – 16:00	Elucidating the role of ammonia-based salts on the preparation of cellulose-derived carbon aerogels Luis E. Arteaga, Unidad de Desarrollo Tecnológico, Chile.	Surfactant Properties of Alkenyl Succinates Derived of Lignins. Nacarid Delgado, Unidad de Desarrollo Tecnológico, Chile.
16:00 – 16:25	Coffee	
16:25 – 16:50	Synthesis of Visible-Light Response TiO_2 and its Application to Carbonized Board. Sung-Phil Mun, Chonbuk National University, South Korea.	Microencapsulation of Polyphenols Extracted from *Pinus radiata* bark. Tomás Kappes R., Universidad de Concepción, Chile.
16:50 – 17:20	**POSTER AWARDS AND CLOSING CEREMONY**	

POSTER SESSION

ADHESIVES AND BONDING

AB01
SECOND GENERATION AMINO RESINS
JOÃO FERRA
EURORESINAS - INDÚSTRIAS QUÍMICAS SA - PORTUGAL

AB02
ENGINEERED WOOD PRODUCTS MADE WITH 100% BIO-BASED ADHESIVES: NEW APPROACHES TO DESIGNING ADHESIVES FOR WOOD PANEL MANUFACTURE
WARREN GRIGSBY
SCION - NEW ZEALAND

BIO-RESOURCES

BR01
INFLUENCE OF TREE HEIGHT IN THE CHEMICAL COMPOSITION OF THE LIPOPHILIC EXTRACTS FROM THE *Eucalyptus Nitens* BARK
NICOLÁS GONZÁLEZ
UNIVERSIDAD DE CONCEPCIÓN - CHILE

BR02
FILMS BASED ON FUNGAL BIOMASS DERIVED CHITOSAN
GUSTAVO CABRERA
CENTRO DE INVESTIGACIÓN, DESARROLLO E INNOVACIÓN (CIDI), GRUPO HIJUELAS - CHILE

BR03
ANTIMICROBIAL ACTIVITY OF MODIFIED/UNMODIFIED POLYFLAVONOIDS AND LIGNIN FROM PINUS RADIATA OBTAINED UNDER PILOT-PLANT SCALE
DANILO A. ESCOBAR
UNIDAD DE DESARROLLO TECNOLÓGICO - CHILE

BR04
GROWING UP IN DIFFERENT ALTITUDE: CHANGES IN THE GROSS CALORIFIC VALUE AND ELEMENTAL COMPOSITION OF *Abies religiosa* WOOD
RICARDO MUSULE
INSTITUTO DE BIOTECNOLOGÍA Y ECOLOGÍA APLICADA, UNIVERSIDAD VERACRUZANA - MEXICO

BR05
ESTIMATION OF WASTE MEDIUM DENSITY FIBREBOARD GENERATION FROM DIFFERENT SOURCES FOR ITS RECYCLING IN KOREA
JEONGKWAN ROH
KYUNGNAM NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY - REPUBLIC OF KOREA

BR06
PRELIMINARY STUDY OF FRACTIONATION AND PURIFICATION OF STILBENOIDS FROM EXTRACT OF *Vitis vinifera* (PINOT NOIR) GRAPE CANE BY ADSORPTION ON MACROPOROUS RESINS (XAD-7)
SEBASTIAN RIQUELME
UNIDAD DE DESARROLLO TECNOLÓGICO - CHILE

BR07
CARACTERISATION OF NETTLE FIBERS PRODUCED BY STEAM EXPLOSION
PAOLA NAVARRETE
LERMAB - UNIVERSITÉ DE LORRAINE - FRANCE

BR08
PRODUCTION OF FIBERS FROM METAL-RICH PHYTOREMEDIATION HEMP
THIBAUD SAUVAGEON
UNIVERSITÉ DE LORRAINE - FRANCE

BR09
BACTERIAL POLYHYDROXYALKANOATE FOR ELECTROSPUN FIBER PRODUCTION
FRANCISCA ACEVEDO
UNIVERSIDAD DE LA FRONTERA - CHILE

BIOPLASTICS AND BIOCOMPOSITES

BB01
COMPOSITE PANELS MADE FROM TETRA-PAK AND POLYETHYLENE WASTE MATERIALS
EMILIA-ADELA SALCA
TRANSILVANIA UNIVERSITY OF BRASOV - ROMANIA

BB02
DYNAMICS OF SMALL MOLECULES IN METAL-ORGANIC FRAMEWORKS (MOFs) STUDIED BY ^{2}H AND ^{13}C SOLID-STATE NMR
HAIYAN MAO
NANJING FORESTRY UNIVERSITY - CHINA

BB03
EFFECT OF DIFFERENT POLYMER BLENDING ON THE MECHANICAL PROPERTIES OF POLYPROPYLENE BASED WOOD PLASTIC COMPOSITE
HIKARU KOBORI
SHIZUOKA UNIVERSITY - JAPAN

BB04
SELF-BONDED COMPOSITE FILMS BASED ON CELLULOSE NANOFIBERS AND POLYLACTIC ACID MICROFIBRILS.
EDUARDO ROBLES
UNIVERSITY OF THE BASQUE COUNTRY UPV/EHU, ESPAÑA.

BB05
GREEN COMPOSITES OF RESIDUAL MICROALGAE BIOMASS: ADVANCES IN MICROALGAE BIOMASS BIOREFINERY FOR BIODIESEL PRODUCTION
SIMONET TORRES
CEDENNA, UNIVERSIDAD DE SANTIAGO DE CHILE - CHILE

BB06
THERMAL AND MECHANICAL CHARACTERIZATION OF COMPOSITES BASED ON A POLYMERIC MATRIX OF POLYLACTIC ACID, POLYETYLENE GLYCOL AND TALC
IVÁN RESTREPO
UNIDAD DE DESARROLLO TECNOLÓGICO - CHILE

BB07
EFFECT OF ACTIVATIOAN AND MAGNETIZATION ON THE ADSORPTIVE REMOVAL OF METHYLENE BLUE ONTO OAT HULL BIOCHAR
MARÍA EUGENIA GONZÁLEZ
UNIVERSIDAD CATÓLICA DE TEMUCO - CHILE

BB08
BIOCOMPOSITES WITH FORESTAL RESIDUES OF TZALAM (*Lysiloma latisiliquum*) AS REINFORCEMENT
CANCHÉ-ESCAMILLA G
CENTRO DE INVESTIGACIÓN CIENTÍFICA DE YUCATÁN - MEXICO

BB09
DEVELOP AND CHARACTERIZATION OF BIODEGRADABLE COMPOSITE TO USE IN FOREST INDUSTRY
CATALINA CASTILLO SEPÚLVEDA
UNIDAD DE DESARROLLO TECNOLÓGICO - CHILE

BB11
CHARACTERIZATION AND APPLICATION OF A NATURAL POLYMER AS A THERMAL INSULATION BIOMATERIA
JUAN PABLO CÁRDENAS RAMÍREZ
UNIVERSIDAD DE LA FRONTERA - CHILE

BB12
MECHANICAL AND PHYSICAL PROPERTIES OF HEMP FIBER-MAT REINFORCED POLYETHYLENE FILM COMPOSITES
HEIKKO KALLAKAS
TALLINN UNIVERSITY OF TECHNOLOGY - ESTONIA

NEW ANALYTICAL TECHNIQUES, PROPERTIES AND TESTING

NA01
In-situ MOISTURE CONTENT AND DENSITY MEASUREMENTS IN SURFACE DENSIFIED WOOD USING DUAL X-RAY ABSORPTIOMETRY IN MEDICAL CT-SCANNING
JOSÉ COUCEIRO
LULEÅ UNIVERSITY OF TECHNOLOGY - SWEDEN

PROCESSING TECHNOLOGIES

PT01
RESISTANCE OF SMOKED GLUED LAMINATED LUMBER TO SUBTERRANEAN TERMITE ATTACKTITLE
Y. S. HADI
BOGOR AGRICULTURAL UNIVERSITY - INDONESIA

PT02
INFLUENCE OF VENEER DENSIFICATION UPON THE PROCESS OF PLYWOOD PRODUCTION
EMILIA-ADELA SALCA
TRANSILVANIA UNIVERSITY OF BRASOV - ROMANIA

PT03
ANAEROBIC DIGESTION OF CHICKEN MANURE: EFFECT OF SUBSTRATE CONCENTRATION ON THE BIOGAS YIELD
CONSTANZA BEATRIZ ARRIAGADA GAJARDO
UNIVERSIDAD DE CONCEPCIÓN - CHILE

PT04
A NEW METHOD TO SELECT WOOD SPECIES SUITABLE FOR SURFACE DENSIFICATION
BENEDIKT NEYSES
LULEÅ UNIVERSITY OF TECHNOLOGY - SWEDEN

PT05
EFFECT OF SUPERCRITICAL IMPREGNATION PROCESS ON THYMOL RELEASE FROM PLA FILMS FOR FOOD PACKAGING APPLICATIONS
ALEJANDRA TORRES
UNIVERSITY OF SANTIAGO DE CHILE - CHILE

PT06
ENZYMATIC GRAFTING OF PINE BARK TANNINS, A STRATEGY FOR THE SURFACE MODIFICATION OF LIGNOCELLULOSIC MATERIALS
DANIEL MARTÍNEZ
GRUPO BIOSUV, DEPARTAMENTO DE INGENIERÍA QUÍMICA, UNIVERSIDAD DE VIGO - SPAIN

SUSTAINABILITY, ECONOMICS, MANAGEMENT AND MARKETING

SE01
EXERGOECONOMIC ANALYSIS OF HEAT AND POWER PRODUCTION FROM MUNICIPAL SOLID WASTE GASIFICATION
YANNAY CASAS LEDÓN
UNIVERSIDAD DE CONCEPCIÓN - CHILE