

Poster session

- A Novel method for improving cellulose functionality towards plasticization  
*Kirsi Immonen, VTT, Finland*
- Potential of residues from the wood processing industry for wood-polymer composite  
*Sébastien Migneault, University of Québec in Abitibi-Temiscamingue, Quebec, Canada*
- How impurities (Hemicelluloses, Ink and Lignin) affect the functionalization of celluloses fibres  
*Alvaro Tejado, Tecnalia, Spain*
- Characterizations of cellulose whiskers obtained from different sources  
*L.H.C. Mattoso, National Nanotechnology Laboratory for Agriculture (LNNA), Brazil*
- Effects of solvolysis treatment of wood on Physical and Mechanical Properties of Wood-Plastic Composites (WPCs)  
*Masahiko Kobayashi, Forestry and Forest Products Research Institute (FFPRI), Japan*
- Characterization of wood flour modified by micronized organo-montmorillonite (OMMT) suspension and properties of its composites with poly(lactic acid)  
*Ru Liu, Faculty of Material Science & Technology, Beijing Forestry University, China*
- Bio Based Lignin Composites  
*Lisa Wikström, VTT, Finland*
- Influence of chemical treatments on the properties of green composites based on hemp fibers and starch  
*B.S. Umurigiwa, GRESPI, France*
- Preparation and characterization of actived carbon fibers prepared from liquefied wood  
*Weinjing Liu, Departement of Wood Science and Technlogy, Beijing Forestry Technology, Beijing, China*
- Substitution of metal based Materials  
*Sven Wüstenhagen, LB Naturstoffkomposite, Fraunhofer-Institut für Werkstoffmechanik IWM, Halle, Germany*
- The effect of UV Light and Xenon Lamp on Anti-aging Properties of Recycled Milk-cartons/PE Composite Siding  
*Li Dagang, Nanjing Forest University, China*
- Contribution of the enhancement of interfacial behaviour polylactic acid/ Fiber of palm tree date palm by Corona treatment  
*Siham Amirou, UR-MPE/LERMAB, University of Lorraine, France*
- Development of polymer-hemp composites. PolyChanvre, a cross-border project between France and Belgium  
*Bénédicte Goffin, CERTECH, Belgium*
- Mechanical Strength, Thermal Stability and Water Resistance of Injection Molded Bamboo particle-Polypropylene Composites  
*Sharil Anuar Bahari, Faculty of Forest Sciences and Forest Ecology, Wood Biology and Wood Products Dpt, Georg-August-University of Gottingen, Germany*

How to get to Biarritz?

- From the Airport:** Biarritz – Anglet - Bayonne  
Direct flight connections to Biarritz Airport from: Paris, Lyon, Clermont Ferrand, Nice, Dublin, London, Shannon, Bristol, Geneve, Francfort, Copenhagen.  
The distance between the airport and the city is about 4 kilometres. It is easy to take a taxi just outside the airport.
- From Biarritz train station:** Biarritz - La Négresse. The distance between the train station and the city is about 3 kilometres. It is easy to take a taxi just outside the train station.
- By car:** Taken out highway A63 n°4 " The Negress ", Direction "city centre".
- Taxis de Biarritz:** Tél : +33 559 031 818

The symposium Venue - Le Bellevue - place Bellevue - 64200 Biarritz



The conference venue is located in the town within walking distance from most hotels, restaurants and shopping centre.

Completely renovated in 1999, le Bellevue combines the charm of the Belle Epoque style with modern performance, over two floors.

GENERAL INFORMATION:

**Date:** September 23-24, 2013  
**Venue:** Centre de Congrès Le Bellevue - place Bellevue - 64200 Biarritz  
**Airport:** Biarritz International and national Airport  
**Sessions:** Start on Monday, September 23 at 9.00 a.m.  
Finish on Tuesday September 24 at 4.00 p.m.  
**Languages:** French and English. Simultaneous translation will be provided  
**Secretariat:** FCBA – Catherine WEBER - BP 227 - 33028 Bordeaux Cedex - France  
Tél. : +33 (0)5 56 43 63 80 – Fax : +33 (0)5 56 43 64 78 - E-mail : woodpolymer@fcba.fr

REGISTRATION FEES:

Regular fee	Before tax (Inc. VAT)
<b>Including gala dinner:</b>	€ 580 (€ 693.68)
<b>Without gala dinner:</b>	€ 520 (€ 621.92)
<b>Technical Centres and Universities</b>	
<b>Including gala dinner:</b>	€ 460 (€ 550.16)
<b>Without gala dinner:</b>	€ 400 (€ 478.40)
<b>Speaker (including gala dinner):</b>	€ 250 (€299.00)
<b>Exhibitor (including gala dinner):</b>	€ 900 (€1.047.40)
<b>Sponsoring</b>	€ 500 (€598.00)

The registration fee includes coffee breaks, lunches and one copy of the proceedings of the symposium.  
Extra copies may be purchased at €30 for registered participants, €75 for others.

PAYMENT:

- by cheque payable to “FCBA”  
- by credit transfer to: CAISSE D'EPARGNE Ile De France  
Bank account of FCBA  
Bank Code: 17515 - Branch code: 90000  
Account number 08003010258 - 81 Swift code: CEPAFRPP751  
IBAN: FR76 1751 5900 0008 0030 1025 881  
**No credit card please**

ACCOMMODATION:

FCBA has selected several hotels located at a 5 – 15 minutes walking distance to the symposium venue.  
The number of rooms is limited, so book your room quickly.  
More informations on: <http://www.wpc2013.fcba.fr/accommodation.html>

SCIENTIFIC COMMITTEE:

**Chairman : Dr Gilles LABAT**  
**Claudine BLOYAERT** - SOLVIN R&T (Belgium)  
**Asta EDER** - Asta Esder Composites Consulting (Austria)  
**Alvaro TEJADO** - TECNALIA (Spain)  
**Philippe HAJJI** - ARKEMA (France)  
**Bénédicte JEZEQUEL** - Silvadec (France)  
**Takeyasu KIKUCHI** - WPC Corporation (Japan)  
**Gilles LABAT** - FCBA (France)  
**Stéphane LAURENT** - Rettenmaier Fr. (France)  
**Laurent MATUANA** - Michigan States University (USA)  
**Mohini SAIN** - University of Toronto (Canada)  
**Nicole STARK** - Forest Product Laboratory Madison (USA)

Scientific conference - Communications

Dr Gilles LABAT assisted by Véronique Chauvel  
Registration and logitics : Catherine Weber  
E-mail : woodpolymer@fcba.fr



INSTITUT  
TECHNOLOGIQUE

# 6<sup>th</sup> International Wood Fibre Polymer Composites Symposium

Bio-based Composites Improving the Environment,  
Economy and Quality of Life

September 23-24



# BIARRITZ 2013

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More information on:  
<http://www.wpc2013.fcba.fr/>

PROGRAMME  
Registration before June 21, 2013

# 6<sup>th</sup> INTERNATIONAL WOOD FIBRE POLYMER COMPOSITES SYMPOSIUM

## Bio-based Composites Improving the Environment, Economy and Quality of Life

### Objective of the symposium

On overview of recent developments in WPC applied to the construction and furniture industries.

In continuation of our repeating success in the four previous conference events in Bordeaux and the last one in Biarritz, FCBA is pleased to invite you to the 6th edition of the International Symposium on Wood Fibre Polymer Composites, which will take place on September 23-24, 2013, in Biarritz, about 200 km to the south of Bordeaux in France.

The 2013 conference event will focus on opportunities for innovative wood based composites used in Building and Furniture sectors and other sectors contributing to the Green Growth and **Bioeconomy**.

### Benefits for your company

International experts and speakers will present the latest trends and developments in the construction and furniture fields enabling you to enhance your business and target future markets. Don't miss this opportunity to find out what is new in WPC and improve your business by:

- Participating in the Conference (28 oral presentations), Panel discussions and session poster. Get the full picture on new developments in Europe and the following topics worldwide.
- Taking an active part in the Technical Exhibition over the two days (more than 10 industrial attendees are already registered).
- Building professional relationships with producers and users.

### Who should attend

- Producers and suppliers of ligno-cellulosic raw materials and wood (wood flours and fibers, ...),
- Producers and suppliers of natural fibers, raw materials made from renewable resources,
- Producers and suppliers of plastics, recycling plastics, bioplastics, renewable non-biodegradable plastics and additives,
- Producers and suppliers of compounds,
- Producers and suppliers of nano-technologies (MFC, NFC, ...) and reinforcement agents,
- Suppliers of process equipments and technologies,
- Producers and suppliers of WPC (building, construction, furniture, houses equipment, transport and other sectors),
- Suppliers of coating, surfacing and grafting products,
- Architects, project owners in building and designers,
- Trades, users and consumers,
- Researchers, engineers, consultants, testing laboratories, innovation and Environmental agencies.

### Technical Exhibition

Throughout the whole symposium, display your products, technologies and services in the exhibition area: reserve your stand now! 6 sq. m (3x2m) stands, with partitions on 3 sides, table and chairs.

Stands may be installed from 2.0 pm on Sunday September 22. Stand dismantling will take place from 4.00 pm on Tuesday September 24.

For more details, please contact Mrs. Catherine Weber by phone: +33 (0)5 56 43 63 80 or by mail: [woodpolymer@fcba.fr](mailto:woodpolymer@fcba.fr) and reserve online <http://www.wpc2013.fcba.fr/registration.html> before June 21, 2013.

### Poster session

Take the opportunity to discover additional research topics during the two days conference

### Sponsorship

A good opportunity for you to promote your company by including an advertisement in the conference bags, insert your company logo on the welcome slides, the conference banners, in the list of sponsors on our website [http://www.wpc2013.fcba.fr/sponsors\\_partners.html](http://www.wpc2013.fcba.fr/sponsors_partners.html)  
**Offer: € 500 (€ 598 incl. VAT)**

**Don't miss these great opportunities! We look forward to welcoming you to Biarritz.**  
**Come and enjoy the relaxed atmosphere of the gala dinner**



- Session 1:** Markets, business opportunities, standardization outlook and certification  
**Session 2:** Innovation for building and furniture  
**Session 2A:** Innovation on raw materials and formulations  
**Session 2B:** Recent progress on products and technologies  
**Session 2C:** Real Life applications of WPC in Building, Construction, Furniture, Design and Transport  
**Session 3:** Research and development  
**Session 4:** Performance assessment of products and testing  
**Session 5:** Environmental issues

» September 23, 2013

8H00 – 9H00 REGISTRATION AND WELCOME

9H00 – 9H15 **OPENING REMARKS – FCBA**  
Georges-Henri Florentin, General Manager, FCBA, France  
Gilles Labat, Chairman, FCBA, France

9H15 – 10H00 **KEYNOTE PAPERS**  
• Innovation and rapid Development of WPC industry in China  
Wayne Song, Future Materials Inc., China  
• Green Nanotechnology  
Mohini Sain, Toronto University, Canada

10H00 – 11H00 **SESSION 1: MARKETS, BUSINESS OPPORTUNITIES, STANDARDIZATION OUTLOOK AND CERTIFICATION**  
• North American Decking market Overview  
Paul Bizzarri, TimberTech, USA  
• CTB WPC Certification applied to Cladding and Decking  
Christiane Deval, FCBA, France  
• Markets Developments of Bio-based Composites in Europe  
Asta Eder, WPC consulting, Austria

11H00 – 11H30 COFFEE BREAK

11H30 – 13H00 **SESSION 2A: INNOVATION ON RAW MATERIALS AND FORMULATIONS AND SESSION 3 : RESEARCH AND DEVELOPMENT**  
• Woodforce: High Aspect Ratio Wood Fibres for Polymer Reinforcement  
Xavier Le Fur, Sohae Indústria, SGPS, SA, France  
• Uses of new wood sources for Wood-Polymer Composites  
Kim Krause, Faculty of Forest Sciences and Forest Ecology, Wood Biology and Wood Products Dpt, Georg-August-University of Göttingen, Germany  
• Potential of tension wood (poplar) fibers as reinforcing agent for Thermoplastics Wood composites  
Johnny Beaugrand, INRA UMR FARE, France  
• PVC Polymer Formulation Reinforced with Ground Wheat Straw Filler  
A.J. Kozlowski, OMTEC Inc., Canada

13H00 – 14H00 LUNCH

14H00 – 15H00 **SESSION 2B: RECENT PROGRESS ON PRODUCTS AND TECHNOLOGIES**  
• Conical or Parallel – a question of philosophy for the WPC profile manufacturer  
A direct comparison between two technologies  
Sonja Kahr, Battenfeld Cincinnati, Austria  
• Characterization of the property-defining parameters for Compounding of Polypropylene with Cellulose Fibres  
Tobias Koplin, IfBB – Institute for Bioplastics and Biocomposites, Hannover, Germany  
• PP-based WPCs – Influence of the molar mass of matrix and coupling agent  
Andreas Haider, Wood K Plus, Austria

15H00-16H00 **POSTER SESSION**  
POSTER PRESENTATION

16H00 – 16H30 COFFEE BREAK AND POSTER SESSION

16H30 – 18H00 **SESSION 2: PERFORMANCE ASSESSMENT OF PRODUCTS AND TESTING**  
• Empirical Investigation of micromechanics of the Internal Bond in Wood Plastic Composites  
Lech Muszynski, Oregon State University, USA  
• Cross-sectional Stiffness Analysis and Support Span Calculation of WPC Decking  
Li Dagang, Nanjing Forest University, China

- Characterization of particule change during processing of WPC  
Laura Teuber, Faculty of Forest Sciences and Forest Ecology, Wood Biology and Wood Products Dpt, Georg-August-University of Göttingen, Germany
- Viscoelastic Properties of Poly(lactic acid)/Beech Wood Flour Composites under humidity  
Adriana Gregorova, Institute for Chemistry and Technology of Materials, Graz University of Technology, Austria

19H30

GALA DINNER

» September 24, 2013

08H45 – 09H00 OPENING REMARKS - FCBA

09H00 – 10H30 **SESSION 2C: REAL LIFE APPLICATIONS OF WPC IN BUILDING, CONSTRUCTION, FURNITURE, DESIGN AND TRANSPORT**  
• Innovation : Eco-Friendly Cladding & Decking Certified Solutions, Using a New WPC Generation  
Bernard Voisin and Florence Dumoulin, NEOLIFE, France  
• Lightweight Hollowchamber Profiles made of WPC  
Sven Wüstenhagen, LB Naturstoffkomposite, Fraunhofer-Institut für Werkstoffmechanik IWM, Halle, Germany  
• EINWOOD Aluminium Hybrid technology for non decking market  
Takeyasu Kikuchi, WPC Corporation, Japan

10H30 – 11H00 COFFEE BREAK AND POSTER SESSION

11H00 – 13H00 **SESSION 2C: REAL LIFE APPLICATIONS OF WPC IN BUILDING, CONSTRUCTION, FURNITURE, DESIGN AND TRANSPORT (FOLLOW)**  
• Powder coating of WPC – a new surface treatment for long lasting outdoor products  
Sven Wolf, Extruwod GmbH, Austria  
• Development of durable, solvent-free water-based coatings for Wood-Polymer Composites (WPC) sidings  
Arne Schirp, WKI, Germany  
• Thermoformable bio-based hybrid Wood for revolutionary design in furniture and home design  
Christian Gondard, ISPA, France  
• Polypropylene Composite reinforced with sisal fibers to be used in the automotive industry  
Celso Duarte, Ford Motor Company, Advanced Engineering and Performance, Brazil

13H00 – 14H30 LUNCH

14H30 – 15H45 **SESSION 5: ENVIRONMENTAL ISSUES**  
• Life Cycle Management for WPC producers and manufacturers  
Oliver Stübs, Dipl. Volksw, SKZ german Plastics Center, Wurzburg, Germany  
• Opportunity for recycling construction and demolition waste (C&DW) into WPCs.  
Miriam Garcia-Gonzales, Tecnalia, Spain  
• Performance assessments of biocomposites based on palm fibre or pineapple leaf fibre and polyolefins  
Florence Delor-Jestin, Clermont University, ICCF/ENSCCF, France  
• Using forest resources to develop high performance plastic compounds for the automotive industry  
Ana Rita Campos, PIEP, Portugal

15H45 – 16H00 **CONCLUSION AND PERSPECTIVES**

16H00 CLOSE