

BIOMATERIALS FORUM

THURSDAY, MARCH 26 2009

2:30 PM – 5:00 PM

BIOMATERIALS FOR MASS PRODUCTION



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Moderator

● The Katholieke Universiteit Leuven (Belgium). Ignaas Verpoest, Professor

A PhD in 1981. Now leading a group of 25 researchers in composites areas like natural fibre and biobased polymer composites, nano-composites, textile-reinforced composites and composites processing.

Past President of the European Society of Composite Materials (ESCM) and the International Committee of Composite Materials (ICCM).

Received several important awards, including more recently the European Descartes Prize for Science Communication (2004) and the Francqui Chair (2008). Is author of more than 140 papers and holds 14 patents.

Overview of the most important properties and achievements of natural fibres and their composites in a large number of products and application areas



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● Nova Institut. Michael Carus, Managing Director

- Natural-fibre reinforced plastics (NFRP)
- Wood-plastic composites (WPC) and bio plastics
- Markets and applications

2 Developments in the Innovative Use of Natural Fibres for Industrial Applications 43

● ADAS. Brett Suddell, Senior Materials Scientist

- Recent developments in the field of biocomposite materials will be showcased
- Examples of applications: automotive, construction, leisure, marine and consumer products

AUTOMOTIVE: BIOMATERIALS INSIDE

3 Bio-composites : Opportunities and Challenges for the Automotive Industry 75

● Faurecia. Claire Peyrelongue, Thermoplastics Leader, Engineering Pole of Competence, Interior System Product Group

● Faurecia. Laurence Dufrancatel, Biomaterials Development Leader Faurecia Interior System Product Group

- Bio-fibres composites in automotive markets
- New bio-based materials
- Opportunities and challenges

4 The Eco Car: Eco-Elise 91

● Lotus Engineering. Jason Rowe, Chief Engineer (Materials and Process)

- The Eco-Elise demonstrator vehicle
- Hemp-reinforced panel product and process development
- Production: technology challenges and next steps

CONSTRUCTION: BUILT IN HEMP

5 Hemp Materials to Meet Technical and Environmental Challenges in Building 101

● Construire en Chanvre. Yves Hustache, Consulting Engineer and Secretary General

- Hemp properties
- Building and Construction applications with hemp
- Hemp environmental impact
- Energy-efficient hemp buildings

NEW BIOMATERIALS

6 Wood and Cellulose Fibres and Ultra-Fine Cellulose into Polymers 113

● J. Rettenmaier & Söhne GmbH + Co. KG. Stéphane Laurent, Market Manager

- Description of the wood and cellulose fibres used in wood polymer composites
- Description of current applications in WPC with some mechanical properties, environmental points
- Presentation of innovative products for the reinforcements of polymers:
 - * Ultra-fine cellulose (1µm particle diameter)
 - * Nano-fibrillated cellulose (100 µm length - 10 to 100 nm diameter)
 - * Wood or cellulose fibres with flame-retardant additives, with other chemical additives

7 Development of Furan Biomaterials 137

● NetComposites. Elaine Arnold, Biomaterials R&D Engineer

- BIOCOMP, an integrated project for SMEs supported by the European Commission through the Sixth Framework Programme
- Novel thermoset composite materials developed from entirely bio-based resources
- Furan resins used in combination with flax fibre
- A number of prototype components including construction and automotive parts