



INTEGRATED PROJECT



“SUSTAINABLE MICROBIAL AND BIOCATALYTIC PRODUCTION OF ADVANCED FUNCTIONAL MATERIALS” **BIOPRODUCTION**

Two day seminar on Polymer characterisation

December 7th and 8th 2010

PLACE: CEIB, Chemistry Institute, B6c, Meeting room : 2.71 (2nd floor); Allée de la chimie, 3, University of Liège, Belgium (Sart-Tilman) Belgium

ORGANIZERS

 <p>UNIVERSITÉ de Liège Biomatériaux CEIB - Centre Interfacultaire des Biomatériaux</p>	
<p>PROF. CHRISTIAN GRANDFILS</p>	<p>DR. SUSANA FERANDEZ PRIETO</p>

AGENDA

December 7th 2010

9h15 : Welcome

9h30 – 10h15 : Molecular weight characterisation of polymers ; Purpose - principle – Main analytical techniques ; MALS – SEC : Christian Grandfils (ULg, Belgium)

10h15 - 10h45 : Analysis of (bio)polymers with AF4-MALLS: Christian Denisse : Wyatt Technology Europe

10h45 - 11h00 : Coffee break

11h00 – 11h45 : Viscosity of polymers in solution ; Solution properties of novel microbial polysaccharides ; Vitor Alves, CEER - Biosystems Engineering, Portugal

11h45 – 12h30 : Viscometry of Polymer Solutions : an AMVn Application: Anton Paar ; Christophe Anciaux, Anton Paar Benelux BVBA

12h30 – 14h00 : Lunch

14h00 – 14h45 : NMR analysis : Chemical composition of polymers and morphology of materials ; Prof.Dr. Dan Demco, DWI an der RWTH Aachen, Germany

14h45 – 15h30 : FTIR analysis: Characterization of polymers by vibrational spectroscopy ; Valentin Cepas, Procter & Gamble Service GmbH

15h30 – 16h15 : Analysis of polyester degradation by GC-MS and ESI-MS, Minna Hakkarainen, KTH, Sweden

16h15 - 18h00 : Training section (B6C, 3rd floor ; CEIB facilities ; Chemistry Institute)

- SEC and SEC-MALS in practise : presentation of different SEC equipments and related softwares (W. Schupp, Hs GMBh, Germany)
- Viscosity measurements : Anton Paar – Brookfield – Capillary Viscosimeter
- Mechanical measurements : static – dynamic mechanical properties (Analis – Triton Technology)
- DSC analysis

20h15 - : Dinner : Ramadaplaza-Liege hotel (sponsored by P&G)

December 8th 2010

9h15 – 10h00 : Thermal properties of polymers analysed by Differential scanning calorimetry (DSC) : Christian Grandfils, ULg, Belgium

10h00 – 10h30 : Analysis of the “formulation-processing-properties” relationships of (i) polysaccharides (starch, chitosan) and (ii) polyhydroxyalkanoates (PHB and PHBV) plasticized biomatrices and their related clay-based nano-biocomposites : Eric Pollet, University of Strasbourg, France

10h30 – 11h00 : Influence of environmental parameters on mechanical properties of polymers, Dr John Duncan, Triton Technology/Analisis, UK/Belgium

11h00 – 11h15 : Coffee break

11h15 – 11h45 : Rheology of (bio-)polymers Rheology of (bio-)polymers, Tom Colman, Anton Paar Benelux BVBA

11h45 – 12h30 : Characterisation of chitosan and chitosan derivatives ; Véronique Maquet, KitoZyme S.A., Belgium

12h30 – 14h00 : Lunch

14h00 – 14h45 : “Polymer Surfactant Interaction: principles, examples, and characterization” ; Valentin Cepas, Procter & Gamble Service GmbH

14h45 - 17h30 : Training part : Training section (B6C, 3rd floor ; CEIB facilities ; Chemistry Institute)

- SEC and SEC-MALS in practise : presentation of different SEC equipments and related softwares (W. Schupp, Hs GMBh, Germany)
- Viscosity measurements : Anton Paar – Brookfield – Capillary Viscosimeter
- Mechanical measurements : static – dynamic mechanical properties (Analisis – Triton Technology)
- DSC analysis

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