

Renewable Resources and Biorefineries Program

Monday September 19th 2005

Conference opening (10.30 – 10.45)

Marc Declercq - Vice-rector Ghent University

Plenary lectures (10.45 – 12.15)

Christian Patermann - European Commission, Belgium
Building the European knowledge based bio-economy

James Clark - University of York, UK
Renewable resources: The first step in greening the life-cycle of chemical products?

Greg Zeikus – Michigan State University, USA
Biobased industrial products: Back to the future for agriculture

Lunch and poster session (12.15 – 14.30)

Session 1. General aspects of biorefineries (14.30 – 17.30)

Chairman: Christophe Rupp-Dahlem

Johan Sanders - Wageningen University, The Netherlands
Biorefinery, the bridge between Agriculture and Chemistry

Christophe Rupp-Dahlem – Roquette, France
The starch based biorefinery: today and tomorrow

Alexander Steinbüchel – University of Münster, Germany
Biopolymer degrading and synthesizing microorganisms as integral parts of biorefineries

Thierry Talou - ENSIACET Toulouse, France
AgroResource Refining Concept (A2RC) applied to aromatic plants

Birgit Kamm – Research Institute Biopos e.V., Germany
International Biorefinery-Systems.

Session 2. Bio-energy I (14.30 – 17.30)

Chairman: Martin Mittelbach

Réné van Ree - Energy Research Centre of the Netherlands

Large-scale biomass-derived Fischer-Tropsch diesel production: technological status and perspectives

Markus Maly - Clausthaler Umwelttechnik Institut, Germany

The Biomass-to-Liquid-Process at CUTECH: Optimisation of the Fischer-Tropsch synthesis with carbon dioxide-rich synthesis gas

Martin Mittelbach – University of Graz, Austria

Biodiesel: Production technologies and perspectives

Luc Van Ginneken - Flemish Institute for Technological Research, Belgium

Biodiesel fuel production from vegetable oil by transesterification in supercritical methanol

Roland Verhé – Ghent University, Belgium

Waste fats and oils as a basis for biodiesel production

Welcome reception (17.30 – 19.30)

The welcome reception is held in the pleasant gardens of the former monastery “Het Pand”, with a choice of world-famous Belgian beers, appetizers and lots of ambiance!

Tuesday September 20th 2005

Session 3. Bioplastics and biopolymers (9.00 – 12.00)

Chairman: Christian Stevens

Richard Larock - Iowa State University, USA
Novel polymeric materials from biological oils

Jeroen Van Soest - Wageningen University and Research Centre, The Netherlands
The development of biopolymer nanostructured materials – plastics, gels, IPN's and nanofoams

Bruno De Wilde - Organic Waste Systems, Belgium
Biodegradable polymers: State of affairs

Frits de Wolf - Wageningen University and Research Centre, The Netherlands
Tailor-made collagen-like, silk-like and other protein polymers produced by microorganisms

Luisa Serafim – Universidade Nova de Lisboa, Portugal
Biodegradable polymer production from volatile fatty acids

Session 4. Metabolic engineering and industrial fermentation (9.00 – 12.00)

Chairman : Philippe Soucaille

Manfred Kircher – Degussa, Germany
Chemical industry, white biotechnology and renewables

Benjamin Gonzalez & Philippe Soucaille - Metabolic Explorer, France
Scaling up the business of white biotechnology

Jefferson Lievense – Tate & Lyle, UK
The 1,3 propanediol biorefinery: Production and applications of 1,3 propanediol

Olga Selifonova – Cargill, USA
3-Hydroxypropionic acid - an example of a bio-based industrial chemical

Ka-Yiu San – Rice University, USA
Development of efficient *Escherichia coli* succinate production strains

Lunch and poster session (12.00 – 14.00)

Session 5. Sustainability aspects of the bio-based economy (14.00 – 17.00)

Chairman: Carlos Vaca-Garcia

Peter Saling – BASF

Eco-efficiency balance studies

Chris Hessler – AJW Consulting, USA

Industrial Biotechnology for pollution prevention, resource conservation and cost reduction

Jo Dewulf - Ghent University, Belgium

An exergy-based approach to assess the efficiency and renewability of biofuel production

Dieter Sell – Dechema, Germany

BioBeN: a software tool for the evaluation of sustainability aspects in biotechnology

Sergio Blanco-Rosete – University of Manchester, UK

Development of sustainable processes for the conversion of renewable raw materials to platform chemicals

Session 6. Bio-energy II (14.00 – 17.00)

Chairman: Bruce Dale

Brigitte Ahring – Danish Technical University (DTU) BioCentrum

Transforming straw into renewable fuels and chemicals

Bruce Dale – Michigan State University, USA

What is the net energy of bio-ethanol? A foolish and unimportant question

Willy Verstraete – Ghent University, Belgium

The biogas promise in large-scale practice

Mehrdad Arshadi - Swedish University of Agricultural Sciences

Wood pellets as renewable biomaterial for energy production

Korneel Rabaey - Ghent University, Belgium

Microbial fuel cells: Carbohydrates to power in a single step

Keynote lecture (17.15 – 18.00)

Larry Johnson - Iowa State University, USA

Biobased products and biofuels from the vast reserves of renewable resources

Conference dinner (20.00 – 23.00)

Conference attendees and accompanying persons can join in an exquisite dinner banquet, held in the main hall of the former monastery “Het Pand” and offering world-class Belgian haute cuisine in a prestigious setting.

Wednesday September 21st 2005

Policy opening lecture (9.00 – 9.30)

Kris Peters – Flemish Minister of Energy and Environment
Flemish policy in renewable resources

Session 7. Policy aspects of the bio-based economy (9.30 – 12.30)

Chairman: Wim Soetaert

Jo Vanhemelrijk – Europabio, Belgium
The European Bio-based economy: A vision for 2025

Christian Bertsch – German parliament
The Renewable Resources act: a german perspective for promotion and funding of bio-based products and industries

Colja Laane – DSM, The Netherlands
White Biotechnology: Europe on the move

Matthew Carr – BIO, USA
The bipartisan bioeconomy: The ascent of "biobased" in the United States

Rolf Bachmann – McKinsey & Co, Switzerland
Making the bio-based economy happen: changes and successful management approaches in the chemical industry

Session 8. Enzymatic bioprocessing (9.30 – 12.30)

Chairman: Erick Vandamme

Kirsten Birkegaard Staer – Novozymes, Denmark
The contribution of enzymes to bioprocessing and industrial sustainability

Pauline J. M. Teunissen – Genencor, The Netherlands
Industrial biocatalysts for the bio-based economy

Tianwei Tan – Beijing Key Laboratory of Bioprocessing, China
Production of biodiesel by enzymatic conversion

Marc van der Maarel – TNO/University of Groningen, The Netherlands
Engineering the *Thermus thermophilus* amyloamylase for production of thermoreversible starch gels

Nóra Szijártó - Budapest University of Technology and Economics, Hungary
Hydrolytic properties of two novel cellulases of *Melanocarpus albomyces* expressed in *Trichoderma reesei*

Lunch (12.30 – 13.30)

9. Chemical modification of renewable raw materials (13.30 – 15.00)

Chairman: Michel Paquot

Tina Rogge - Ghent University, Belgium
Chemical modification of inulin

Jacco van Haveren - Wageningen University and Research Centre, The Netherlands
New non-food technologies using (un)saturated and hydroxyl functionalised fatty acids

Andrew Proctor – University of Arkansas, USA
Conjugated linoleic acid synthesis from soy oil by photoisomerization

10. Hemicellulose-based chemicals (13.30 – 15.00)

Chairman: Marc Stevens

Pierre-Yves Pontalier - Institut National Polytechnique de Toulouse, France
Production of hemicelluloses by the combination of twin-screw extrusion and ultrafiltration

Simon Curling - University of Wales, UK
Timber residue as a source for hemicellulose process chemicals

Boris Estrine – Agro-Industrie Recherches et Développements, France
Development of new environmentally friendly surfactants derived from wheat byproducts

Closing remarks (15.00 – 15.15)

Happy hour (15.15 – 16.15)