

# Third International Conference on Renewable Resources and Biorefineries

## RRB3



Ghent – Belgium  
June, 4 – 6, 2007

[www.rrbconference.com](http://www.rrbconference.com)



THE UNIVERSITY of York



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## RENEWABLE RESOURCES AND BIOREFINERIES

Due to the growing impact of renewable resources, this conference aims at bringing together academic researchers, industrial experts, policymakers and venture capital providers to discuss the challenges emerging from the transition towards a biobased economy and to present new developments in this area.

The three day international conference will consist of plenary lectures, oral presentations and a poster session and will take place in "Het Pand", a 10th century monastery within walking distance of the historic city center of Ghent, Belgium. The conference language will be English. A scientific and business exhibition is open to all participants throughout the conference. A prestigious conference reception will be held on monday evening in the town hall of Ghent. An exquisite conference dinner will be held on tuesday evening.

The following topics will be highlighted during the conference:

- Industrial crops for non-food applications
- Bio-energy
- Biobased bulk chemicals
- Bioplastics and biomaterials
- Biocatalysis and enzyme technology
- Bioprocessing and biorefineries
- Industrial fermentation and metabolic engineering
- Policy aspects of the bio-based economy
- Sustainability and societal acceptance aspects
- Building and financing the bio-based economy

This conference is the third edition of the RRB conference, after successful editions in Ghent (September 2005) and York (September 2006) that attracted over 300 international participants. The conference is organized by Ghent University, the Provincial Development Agency West Flanders (POM), Ghent Bio Energy Valley, CIB and CORR. It is supported by ESAB, EuropaBio, the Interreg Project North Sea Bio Energy and the Forum for Applied Biotechnology.



**Conference Location:**  
Het Pand – Ghent University  
Onderbergen 1  
9000 Ghent, Belgium

# Conference website

All information and the possibility for on-line registration can be found at:

**[www.rrbconference.com](http://www.rrbconference.com)**

## **Conference – Administrative Centre:**

POM West-Vlaanderen, Mrs. Lydie Van der Poorten

Provinciehuis Olympia, Koning Leopold III-laan 66, 8200 Sint-Andries-Brugge

Tel: + 32- 50 – 40 73 53

Fax: + 32 - 50 – 71 94 06

E-mail: [lydie.vanderpoorten@west-vlaanderen.be](mailto:lydie.vanderpoorten@west-vlaanderen.be)

## **Conference fees:**

Early bird registrations (before April 10th)	400 Euro
Registration after April 10th, 2007	525 Euro
PhD students:	250 Euro
Conference Banquet	50 Euro

## **Important dates :**

Deadline for submission of abstracts for oral presentations: February 28th, 2007

Deadline for submission of abstracts for poster presentations: April 15th, 2007

Deadline for early bird registration: April 10th, 2007

Final deadline for registration: May 26th, 2007

## **Call for papers :**

Abstracts for oral contributions or posters should be mailed to

[Chris.Stevens@UGent.be](mailto:Chris.Stevens@UGent.be)

A template for a one page abstract can be downloaded from the website.

## **Scientific and Business Exhibition**

Several sponsorship packages for industrial companies and organisations are still available. Companies can present themselves, new equipment and products at the scientific and business exhibition, that will be open to all conference delegates throughout the conference.

For more information on sponsorship possibilities, please contact the conference sponsorship manager Dominique Delmeire:

[Dominique.Delmeire@UGent.be](mailto:Dominique.Delmeire@UGent.be) tel. +32 92 64 60 29 fax. +32 92 64 62 31

# Conference Program

*Monday, June 4th 2007*

- 9.30–10.00** Registration/Coffee/Tea
- 10.00–10.30** Welcome by the Conference Organisers  
Conference opening by Mr. André Denys, Governor of East-Flanders
- 10.30–12.00** **Plenary Lectures**  
**Christophe Rupp-Dahlem** (Roquette, France): The "BioHub" Programme  
**Speaker to be confirmed:** The Lead Market Initiative on Biobased Products  
**Suzanne Hunt** (World Watch Institute, USA): Global Perspectives and Sustainability of Biofuels
- 12.00–13.00** Lunch and Poster Session
- 13.00–15.00** **Parallel Sessions 1 and 2**
- Session 1** **Policy Aspects of the Biobased Economy**  
**Maurice Lex** (EU): The Knowledge-Based Bio-Economy  
**Camille Burel** (EuropaBio, Belgium): A European Policy Agenda for Industrial Biotechnology - View of a European Technology Platform  
**Christian Müller** (Federal Ministry of Education and Research BMBF, Germany): The German Cluster Initiative "Industrial Biotechnology"  
**Andreas Meiser** (McKinsey & Company, inc., Germany): Perspective on the Biofuels in Industry
- Session 2** **Bioprocessing and Biorefineries**  
**Christian Wandrey** (The Research Center Jülich, Germany): The Future of Bioprocessing  
**Bjarne Adamsen** (Genencor, Denmark): Building Genencor's Biorefinery Business  
**Emanuel Koukios** (National Technical University of Athens, Greece): From Petroleum to Biomass Refineries: Logistics, Kinetics and Energetics  
**Michel Delmas** (University of Toulouse, France): Biorefinery of Straw: Pilot Plant Production of Chemical Bleached Pulp, Linear Lignins and Xylose Syrup
- 15.00–15.30** Coffee Break
- 15.30–17.30** **Parallel Sessions 3 and 4**
- Session 3** **Sustainability and Societal Acceptance Aspects of the Biobased Economy**  
**Patricia Osseweijer** (Delft University, The Netherlands): Dealing with Upcoming Public Issues in Industrial Biotechnology  
**Martin Patel** (University Utrecht, The Netherlands): Sustainable Chemicals and Polymers  
**Cécile Bessou** (Institut National de la Recherche Agronomique, Thiverval-Grignon, France): Life-Cycle Assessment of Bio-Energy Chains: Consensus or Confusion?
- Session 4** **Building and Financing the Biobased Economy**  
**Paul Decraemer** (Capricorn Cleantech Fund, Belgium): Venture Capital in the Biobased Economy  
**Ivan Stocker** (De Smet Engineers and Contractors): General Contracting for Bio-Energy Projects: Strategy and Benefits  
**Manfred Kircher** (Degussa GmbH, Germany): Degussa's Strategic Move Towards White Biotechnology

**18.00–20.00 Welcome Reception**

The welcome reception is held in the historic Pacification Room of the town Hall of Ghent, with a choice of world-famous Belgian beers, appetizers and lots of ambiance!

***Tuesday, June 5th 2007***

**9.00–10.30 Parallel Sessions 5 and 6**

**Session 5 Industrial Crops for Non-Food Applications**

**Dirk Inze** (VIB/Ghent University, Belgium): Improved Crops for Bio-Energy

**Ian Graham** (York University, UK): The EPOBIO Perspective on Biorefining

**Greet Ghekiere** (POVLT, Belgium): The Use of Sorghum as a Bio-Energy Crop.

**Session 6 Biocatalysis and Enzyme Technology**

**Uwe Bornscheuer** (Greifswald University, Germany): Directed Evolution as a Tool to Create Industrially Useful Enzymes

**Patrick Lorenz** (BRAIN Aktiengesellschaft, Germany): Screening and Application of Novel Industrial Biocatalysts

**Anna Suurnäkki** (VTT Technical Research Centre of Finland): Potential of Enzymes in Pulp and Paper Manufacturing/Processes

**10.30–11.00 Coffee Break**

**11.00–12.00 Parallel Sessions 5 and 6**

**Session 5 Industrial Crops for Non-Food Applications**

**Jürgen Logemann** (BASF, Germany): Industrial Crops and Bio-Energy Crops - a BASF Plant Science Perspective

**Carol Lin** (University of Manchester, University of York, UK): Novel Wheat-Based Biorefinery Strategy for Platform Chemical Production

**Session 6 Biocatalysis and Enzyme Technology**

**Garo Antranikian** (Hamburg University of Technology, Germany): Biotransformation under Non-Conventional Conditions

**Telma Franco** (University of Campinas, Brazil): Enzymatic Direct Synthesis of Acrylic Acid Esters of Mono- and Disaccharides

**12.00–13.30 Lunch and Poster Session**

**13.30–15.00 Parallel Sessions 7 and 8**

**Session 7 Industrial Fermentation and Metabolic Engineering**

**Oliver May** (DSM): Innovations with White Biotechnology: The Future has Already Begun

**G. Meurer** (BRAIN Biotechnology Research and Information Network AG, Germany): Molecular Tools for Sustainable Whole Cell, Multi-Step Biosynthetic Processes in Microbial Producer Organisms

**Ruud Weusthuis** (Wageningen University and Research Centre, The Netherlands): A Way to Improve Performance of Fermentation Processes: Twin Products Concept

**Session 8 Biobased Chemicals**

**Thomas Bechtold** (University of Innsbruck, Austria): Natural Dyes for Textile Dyeing - a Controversial Field Offering Opportunities

**Ingegärd Johansson** (Akzo Nobel Surface Chemistry AB, Sweden): Surfactants from Renewable Sources

**Dirk Develter** (Ecover, Belgium): Biosurfactants in Cleaning and Cosmetics

**15.00–15.30** Coffee Break

**15.30–17.00** **Parallel Sessions 7 and 8**

**Session 7** **Industrial Fermentation and Metabolic Engineering**

**Ka-Yiu San** (Rice University, Houston): Increasing intracellular NADPH Availability to enhance Productivity in *Escherichia coli*

**S. Bringer** (Institut für Biotechnology, Germany): Influence of NAD Pool Size on Productivity of Reductive Whole Cell Biotransformation with Recombinant *Escherichia coli*

**A. Straathof** (Delft University of Technology): Integration of Fermentation and Product Crystallization

**Session 8** **Biobased Chemicals**

**Bart Leveck**e (Orafti, Belgium): Inulin-Based Surfactants: Product and Applications

**James Clark** (University of York, UK): Starbons® - New Materials Derived from Renewable Resources

**Dominique Lecroc** (Solvay, Belgium): Large Scale Synthesis of Epicerol from Glycerol

**17.30–19.30** **Social Programme**

Boat trip in the Port of Ghent or guided walk through the historic city centre of Ghent

**20.00–23.00** **Conference Dinner**

Conference attendees and accompanying persons can join in an exquisite dinner banquet, held at the Sofitel Hotel and offering world-class Belgian Haute Cuisine.

### **Wednesday, June 6th 2007**

**9.00–10.30** **Parallel Sessions 9 and 10**

**Session 9** **Biobased Chemicals**

**Ben Brehmer** (Universiteit Wageningen, The Netherlands) The Valorisation of Functionalized Chemicals from Biomass Resources compared to the Conventional Fossil Production Route

**Joseph Bozell** (University of Tennessee, USA): Carbohydrates as Feedstocks for the Biorefinery: Preparation of New Nanostructural Materials

**Sevim Erhan** (USDA, Peoria, USA): Biobased Lubricants: Chemical Modification of Vegetable Oils for Basestocks

**Session 10** **Bio-Energy I**

**Jonathan Mielenz** (Oak Ridge National Laboratory, USA): The Plans for the Accelerated Biomass Ethanol in the USA

**Dirk Becquart** (Port of Ghent, Belgium): Ghent Bio-Energy Valley: Biofuels and Beyond

**Oliver Kensch** (Direvo Biotech AG, Germany): Improving Enzymes for Lignocellulose-Based Ethanol Production

**10.30–11.00** Coffee Break

**11.00–12.30 Parallel Sessions 9 and 10**

**Session 9 Biobased Chemicals**

**Martin Peter** (Potsdam University, Germany): Chitin and Chitosan: Most Versatile Biopolymers for High-Value Applications

**Masamitsu Funaoka** (Mie University, Japan): Design and Synthesis of Functionality Controllable Lignin-Based Polymers

**Vijay Mannari** (Eastern Michigan University, USA): Novel Vegetable Oil-Based Functional Intermediates for Advanced Coating Systems

**Session 10 Bio-Energy I**

**Robin W.R. Zwart** (ERC, The Netherlands) : Large-Scale Fischer-Tropsch Diesel Production / Opportunities and Challenges to Shift from Black (Coal) to Green (Biomass)

**Robert Brown** (Iowa State University, USA): Thermochemical Options for Biorefineries

**Luc De Baere** (OWS): Biogas Production from Energy Crops: an Increased Role of Biomethane

**12.30–13.30 Lunch and Poster Session**

**13.30–15.30 Parallel Sessions 11 and 12**

**Session 11 Bioplastics and Biomaterials**

**Catia Bastioli** (Novamont, Italy): Biodegradable Polymeric Materials and their Use

**Bart Noordover** (Eindhoven University of Technology, The Netherlands): Polyesters from Renewable Resources – Chemistry, Functionality and Applicability

**Jozef Sleenckx** (Dow Benelux B.V., The Netherlands): Foams from Biobased Resources

**Antoine Rouilly** (ENSIACET, France): Benefits of the Twin-Screw Extrusion for the Development of Agro-Materials

**Session 12 Bio-Energy II**

**Marc Kellens** (De Smet Ballestra, Belgium): New Challenges and Opportunities for the Oil and Fat Processing Industry in the 21<sup>st</sup> Century

**Barnim Jeschke** (ELSBETT Technologies): Pure Plant Oils, the Powerful Biofuel Alternative – A Pioneer's Review and Outlook

**Roland Verhé** (Ghent University, Belgium): Biodiesel Production from Waste Streams

**Bart Muys** (K.U. Leuven, Belgium): Jatropha-Based Biodiesel Production, Life Cycle and Environmental Impact

**15.30–17.00 Happy Hour**