

# Pre-events

## Speakers

### @ OECD

#### “Biofueling the Future”

- **Wayne Jones**,  
Head, Agriculture and Development Division, Trade and Agriculture Directorate, OECD
- **Iain Gillespie**,  
Head, Biotechnology Division, Directorate for Science, Technology and Industry Directorate, OECD
- **Roberto Rodrigues**,  
Former Brazilian Minister of Agriculture; Co-chairman of the Interamerican Ethanol Commission (IEC); Coordinator of the Getulio Vargas Foundation Agribusiness Center (GV Agro); and President of the Superior Council of Agribusiness of São Paulo's Federation of Industries (FIESP)
- **Pedro de Sampaio Nunes**,  
Former Portuguese State Secretary for Science, and Innovation; Chief Executive Officer, Green Cyber, Portugal
- **Marion Guillou**,  
President, Institut National de la Recherche Agronomique (INRA), France
- **Willy de Greef**,  
Secretary-General, EuropaBio; Former Head of Regulatory Affairs, Syngenta Seeds; Former Chief Executive Officer, D1 Oils
- **Martin Von Lampe**,  
Agricultural Policy Analyst, OECD
- **Wim Soetaert**,  
Laboratory for Industrial Microbiology and Biocatalysis, Faculty of Bioscience Engineering, University of Ghent
- **Alexander Schwartz**,  
McKinsey, Austria

### @ GENOPOLE®

#### “Biomufacturing”

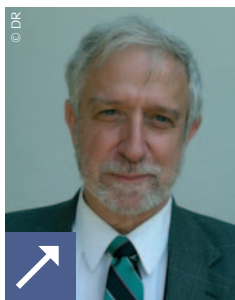
- **Brigitte Barbeau**,  
Vice President, Production, Medicago, Canada
- **Jacqueline Besset**,  
Assystem
- **Christine Bizet**,  
Millipore, Molsheim
- **Denis Bortzmeyer**,  
Director of Partnerships, Arkema
- **Olivier Cochet**,  
Director Industrial Biotechnology, Pierre Fabre SA
- **Eric Devic**,  
President & Chief Executive Officer, GTP Biotechnologies
- **Marie-Thérèse Duffour**,  
Inspector, Biological Drugs, AFSSAPS
- **Uwe Gottschalk**,  
Vice President, Purification Technologies, Sartorius Stedim Biotech, Göttingen
- **Luc Grislain**,  
Ellipse Pharmaceuticals, Pessac
- **Ashley Lawton**,  
Vice President, Business Development, GTC Biotherapeutics
- **Maxime Laugier**,  
MP5-Créapharma, Riom
- **Ingrid Markovic**,  
Division of Therapeutic Proteins, Food and Drug Administration (FDA)
- **Philippe Marion**,  
Rhodia Opérations
- **Philippe Martière**,  
Isthmus
- **Majid Mehtali**,  
Vice-President, Research & Development, Vivalis
- **Patricia Noguez-Hellin**,  
Genethon
- **Roland Ollivier**,  
Aktehom, Nantes
- **Claus Tollnick**,  
Sanofi-Aventis

### @ UNITED NATIONS-GENEVA

#### “Generation Regeneration”

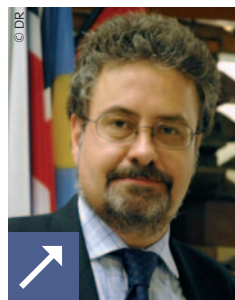
- **Bernat Soria**,  
Minister of Health of Spain
- **Yann Barrandon**,  
Laboratoire de dynamique des cellules souches (EPFL), Lausanne (CH)
- **Richard Boyd**,  
Director Monash Immunology and Stem Cell Laboratories (AU)
- **Malcolm Alison**,  
DSc, FRCPATH, Centre for Diabetes and Metabolic Medicine, London (UK)
- **Peter Everts**,  
Catharina Hospital Eindhoven, The Netherlands (NL)
- **Pierre Burkhard**, University of Geneva
- **Robert Goldstein, MD**, Juvenile Diabetes
- **Malcolm Alison**, DSc, FRCPATH, Centre for Diabetes and Metabolic Medicine, London (UK)
- **Yann Barrandon**, Laboratoire de dynamique des cellules souches (EPFL), Lausanne (CH)
- **Richard Boyd**, Director Monash Immunology and Stem Cell Laboratories (AU)
- **Pierre Burkhard**, University of Geneva
- **Peter Everts**, Catharina Hospital Eindhoven, The Netherlands (NL)
- **Robert Goldstein, MD**, Juvenile Diabetes
- **Hideaki Kagami**, Nagoya University, Japan
- **Susan Lim**, Chairman Stem Cell Technologies I, Singapore
- **Laura Mazzuco**, Hospital Santi Antonio e Biagio e Cesare Arrigo, Alessandria, Italy
- **Allan Mishra**, Stanford University, Menlo Park, CA, USA
- **Shivinder Singh**, Joint Managing Director Fortis Healthcare Limited, India
- **Bernat Soria**, Minister of Health of Spain
- **Cody Trowbridge**, Division of cardiovascular and thoracic surgery, Greisinger Medical Center, Pennsylvania, USA (tbc)

# Welcome messages



**Michael Osborne**

◀ **Director of the International Futures Programme and the Global Science Forum**



**Iain Gillespie**

◀ **Head of the Biotechnology Division Directorate for Science, Technology and Industry**

## OECD and the Bio-based Economy

For some, the "Bio-based Economy" - employing Industrial, or White, Biotechnology - is expected to become to the 21<sup>st</sup> century what the fossil-based economy was to the 20th century. Such an economy would provide major new opportunities to new and existing industries to contribute to sustainable growth and development through innovation. As such, it is a critical element of the wider concept of a Bioeconomy, which embraces all applications of biotechnology (including white, green, red and blue).

However, a bio-based economy can only succeed when changes are made and managed across micro- (company), meso- (regional) and macro- (national, international) levels. Such a transition needs to include domains such as science and technology, institutional structures, economic relations and marketing of new products, and will involve a wide range of technical disciplines. A broad range of actors are involved including the business and industry community, NGOs, government authorities, knowledge institutions such as universities and research organisations and international organisations, each of which has an individual role to play.

The S&T Ministers from the OECD Member countries decided in 2004 that there is a need to identify and remove inappropriate barriers that might impede further development and delivery of bio-based products and

bioprocesses and thus accelerate the transition towards a more bio-based economy.

But some of the policies and processes put in place so far have not been without their detractors. The recent surge in bioethanol production, for example, has been implicated in unintended and undesirable consequences for global food prices and the assumed environmental and rural economy benefits questioned.

Bioenergy and biofuels of course are of growing public and private interest at a time of rapidly rising world energy demand and high oil prices. But are biofuels for transport a viable alternative to power our cars, trucks, and buses? Do they deliver the expected environmental benefits and benefits to the rural economy? And what role should public policy play in their development? The assumed benefits appear to be much smaller than expected under current production conditions and are unlikely to be delivered with current policies. These amongst other issues are explored in the recently published OECD Report "Biofuel Support Policies: an Economic Assessment".

Additional research on the economics of biofuels and related agricultural markets, on the environmental costs and benefits of biofuel production using different feedstocks and on a wider range of energy policy alternatives is needed.

Meantime, significant efforts, particularly in the USA, are underway to develop so-called second-generation bioethanol derived from non-food crop feedstocks, but commercial production is still some years ahead and several options remain open for technological development, and many in industry argue that successful adoption of such second generation biofuels is an essential step towards making an economic success of industrial biotechnology and reaping widespread environmental benefits.

The OECD hosted session on biofuels will explore, through presentations and discussions, the emerging promise of biofuels, but also the policy frameworks that will be necessary in the future to ensure that biofuels become a viable economic and social reality. Industry and government leaders in the field will be given the floor to express their views on how best to improve the research, market and policy conditions to provide further impetus to the development and use of biofuels in our economies.

The Secretary General of the OECD, Angel Gurría, will address the Plenary Session of EuroBiO on Tuesday, during which time he will present OECD perspectives on industrial biotechnology and biofuels as well as other biotechnology developments capitalizing on the Organisation's extensive work on the economic and innovation aspects of the biosciences. ■

# OECD

## Energy Futures: How Will Biofuel and Bioenergy Find Their Proper Place?



MONDAY

6<sup>TH</sup> OCTOBER

@ OECD

15.00 - 18.30

**This State of the Art conference, developed by EuroBiO and hosted by the Organisation for Economic Cooperation and Development (OECD), looks closely at the issues surrounding the future production, the use of biofuels, and their role in the development of renewable energies.**

Many countries and regions around the globe have conceived and implemented strategies directed to increasing the use of ethanol and biodiesel in liquid fuels. The strategies have been justified principally by concerns around energy security, the promotion of rural economies, and the reduction of greenhouse gas emissions. Much of the detailed analysis that has been undertaken so far has been, in essence, a critique of existing policy approaches that have mainly been interventions that encourage the conversion of grain or waste into liquid fuel (ethanol and biodiesel).

In contrast, the speakers at this meeting will look to the future of both technology and policy.

In the first session, speakers will consider firstly the nature and implementation of possible future policies for biofuels [and bioenergy]. Such policies might, for example, encourage technological progress that aims more overtly to deliver energetic profitability, economic sustainability, and environmental benefit. The adoption of policies may not be uniform as countries seek to build on their existing or future competitive or resource advantages. What might be the impact of a patchwork of measures within the EU or globally, where some countries have little or no bioenergy incentives, others have narrow biofuel-specific measures, and yet others adopt broader policy incentives that go beyond immediate energy applications of biomass?

The second session will deal with the impact of such policies on the market for bioenergy and biorefinery R&D and technology development in the relatively near future. Is there agreement on what we mean by "sustainable" with respect to biofuels? Will policy continue to favour ethanol and biodiesel production from agriculture? If so, will the policy environment change so that the economic and environmental performance of biofuels

production is brought to the fore? Will certain early-stage technical approaches (for example, second-generation "biorefineries") involving advanced biological processes be encouraged by such broad measures and, if so, which? If not, will there be policy changes that move towards removal of undue market skewing which lead to the writing off of what has been achieved so far with biofuels? Will other renewable energy sources displace bioenergy and biofuels? Within a policy patchwork scenario, where is the R&D more likely to take place? And what should be the lead economic indicator in this field?

### Chairs

- Wayne Jones, OECD
- Iain Gillespie, OECD

### Speakers/panelists

- Roberto Rodrigues, Former Brazilian Minister of Agriculture; Co-chairman of the Interamerican Ethanol Commission (IEC); Coordinator of the Getulio Vargas Foundation Agribusiness Center (GV Agro); and President of the Superior Council of Agribusiness of São Paulo's Federation of Industries (FIESP).
- Pedro de Sampaio Nunes, Former Portuguese State Secretary for Science and Innovation; CEO Green Cyber, Portugal
- Marion Guillou, President, Institut National de la Recherche Agronomique (INRA), France
- Willy de Greef, Secretary-General, EuropaBiO; Former Head of Regulatory Affairs, Syngenta Seeds; Former CEO, D1 Oils
- Martin Von Lampe, Agricultural Policy Analyst, OECD
- Wim Soetaert, University of Ghent, Belgium
- Alexander Schwartz, McKinsey, Austria



MONDAY  
OCTOBER 6<sup>TH</sup>, 2008



SYMPOSIUM ON BIOMANUFACTURING • GENOCENTRE Evry (91), France

## Productivity and Operational Excellence in Biomanufacturing

### PROGRAMME

#### • MORNING SESSION 9:30 - 12:30 :

##### SESSION 1 (PART I): PRODUCTIVITY AND OPERATIONAL EXCELLENCE IN BIOMANUFACTURING

9:30 : Jacqueline Besset, *Assystem, Paris: Operational excellence applied to biomanufacturing*

##### 10:00 : MOLECULAR BIOLOGY AND CELLULAR ENGINEERING

Eric Devic, *GTP Biotechnology, Labège: Strain and process engineering - the key to maximizing productivity*  
Genova Richardson, *SAFC Biosciences, St Louis: CellXpress and high-throughput, single cell clone generation*

##### 11:30 : ADVANCES IN DISPOSABLE TECHNOLOGIES

Olivier Cochet, *Pierre Fabre, St Julien en Genevois: Boosting bioprocessing efficiency with single-use technologies*  
Claus Tollnick, *Sanofi-Aventis, Vitry sur Seine: Stainless steel is challenged by disposable technologies - survival of the fittest in the biopharmaceutical industry*

12:30 : Christian Lajoux, *LEEM, Paris: Presentation of the market study: "Biomanufacturing in 2008: a review and recommendations for improving France's attractiveness"*

#### • AFTERNOON SESSION 14:30 - 19:00

##### 14:30 SESSION 1 (PARTIE II) : PRODUCTIVITY AND OPERATIONAL EXCELLENCE IN BIOMANUFACTURING

Uwe Gottschalk, *Sartorius Stedim Biotech, Göttingen,:*  
*The present and future of downstream processing in biomanufacturing*

Christine Bizet, *Millipore, Molsheim:*  
*How to increase downstream processing flexibility using disposable technologies*

##### 15:30 : FORMULATION, FILL & FINISH:

Luc Grislain, *Ellipse Pharmaceuticals, Pessac:*  
*The main challenges to be faced in drug formulation of biotech molecules*

Maxime Laugier, *MP5-Créapharma, Riom:*  
*How to increase manufacturing efficiency for parenteral Phase I & II clinical batches*

##### 14:30 SESSION 2: NEW TECHNOLOGICAL APPROACHES

Majid Mehtali, *Vivalis:*  
*Embryonic stem cell-derived substrates for the industrial production of vaccines & therapeutic proteins*

Brigitte Barbeau, *Medicago, PQ, Canada:*  
*Development of a rapid production system for pandemic influenza vaccines*

Patricia Noguez-Hellin & Otto Merten, *Genethon, Evry:*  
*Industrial approach of Genethon for gene therapy products*

Ashley Lawton, *GTC Biotherapeutics, Framingham-MA:*  
*Transgenic production: a validated, low-cost, highly scaleable solution for the production of difficult-to-express and high-volume therapeutic proteins*

##### 17:00 SESSION 3: REGULATORY ADVANCES

Roland Ollivier Aktehom, *Nantes : Gene therapy: GMP and GCP aspects*

Ingrid Markovic, *FDA, Rockville : Chemistry, Manufacturing and Control issues in production of therapeutic biologic protein products (Teleconference)*

Luciano Gambini, *Milan : How the different GLP/GMP/GCP guidelines interact*

Marie-Thérèse Duffour, *AFSSAPS, Saint Denis: Revision of Annex 2 of EU GMP: manufacture of biological medicinal products for human use*

##### 17:00 SESSION 4: GREEN & WHITE BIOTECH

Philippe Marlière, *Isthmus, France :*  
*Synthetic biology: new routes for obtaining building blocks*

Denis Bortzmeyer, *Arkema, DRD, France :*  
*Economic evaluations of the biotech routes to industrial chemistry molecules: case studies*

Philippe Marion, *Rhodia Opérations, Lyon:*  
*The story of the "Usines de Melle": lessons for the future*  
Title and speaker to be confirmed