



[www.fbr.wur.nl/UK/about/biorefinerytrainingschool](http://www.fbr.wur.nl/UK/about/biorefinerytrainingschool)

Wageningen Business School

## Who should attend this school?

Young researchers, public and private R&D or industry personnel and policy makers

The course will be at graduate level and thus suitable for postgraduate and postdoctoral researchers who have an interest in biorefining. However, the course's modular nature also makes it suitable for policy makers and qualified personnel from companies who wish to acquire a deeper understanding of biorefining. For those who simply wish to procure an overview in biorefining, it will be possible to opt for the shorter 2-day formula. Post-graduate and postdoctoral researchers are strongly advised to opt for the 4-day course. For following the complete training module 1 ECTS credit will be gained; including a poster presentation will be awarded with 1 additional ECTS credit (via VLAG doctoral school).

## Contact and further information

[www.fbr.wur.nl/UK/about/biorefinerytrainingschool](http://www.fbr.wur.nl/UK/about/biorefinerytrainingschool)  
e-mail: [info.wbs@wur.nl](mailto:info.wbs@wur.nl)

## Training school information and registration

Biorefining – Principles and Technologies is a residential training school. All trainees will be housed in the venue hotel, 'Hof van Wageningen', located in the centre of Wageningen, the Netherlands, within easy access of Schiphol airport and trains. Those wishing to attend the training school should first complete the application form available on the website (registration open from 15<sup>th</sup> April to 30<sup>st</sup> June 2012). The number of places is limited to 120. Approximately 1/2 of the places will be reserved for young researchers. The other 1/2 will be allocated on a first-come, first served basis. At the end of the application period, registered candidates will receive a confirmation letter, information on payment and further course details. Once payment is made, no reimbursement will be possible. Course documents will be sent out before the 15<sup>th</sup> October 2012. Fees cover course material, hotel accommodation (4 nights for the 4-day course and 2 nights for the short option) in a single room, refreshments during breaks, lunches, dinners and transport to the biorefinery site.

Course fees	4-day course*	Short 2-day option
Full rate	€ 1400,-	€ 950,-
PhD student rate	€ 950,-	€ 750,-

\* If you share a hotel room with colleague, the fee is 100 euro less for the 4 days program. Contact [info.wbs@wur.nl](mailto:info.wbs@wur.nl) for more information.



# Biorefining Training School 2012

## 2<sup>nd</sup> European Training School on the Principles and Technologies for Biorefining



Wageningen, the Netherlands, 29 October – 1 November 2012

# Biorefining: From Concepts to Reality

Biorefining is the sustainable processing of biomass into a spectrum of marketable Biobased Products (food, feed, materials, chemicals) and Bioenergy (fuels, power and/or heat).

This industry will underpin the foreseen transition towards a more Bio Economy, which will rely on plant-derived biomass feedstocks rather than fossil resources. The development of biorefinery-based sustainable value chains relies on the smart integration and deployment of technologies that are associated with a wide range of scientific disciplines. Therefore, increasingly individual actors involved in the area of biorefining need to possess both basic knowledge of the full chain composing biorefinery processes and understand the legislative and societal drivers for biorefinery deployment.

## Training by Top European Experts

The aim of the training school is to offer a novel educational opportunity, which will address important biorefinery-associated issues and provide the trainee with a state of the art view of this emerging field. The course will be taught by top-level European specialists, active in R&D and industry.

## Set-up Training School

Part I – Days 1 and 2 of the curriculum will offer an overview of biorefinery concepts and will include an on-site, commentated visit of state of the art pilot and industrial facilities. This introduction will provide an ideal opportunity for a wide public, including PhD students, researchers and policy makers to become acquainted with the fundamentals in biorefining and to learn more about the current status quo, notably in Europe.



Part II – Days 3 and 4 of the curriculum will take the trainee further along the learning path, providing high level information on the underpinning technologies. Starting with a series of lectures delivered by European experts, this part of the course will be completed by in-depth 3-hour training modules. By choosing a maximum of two modules a day, trainees will have the opportunity to come into closer contact with certain aspects of biorefinery technologies and to discuss these technologies with course faculty members in a more intimate learning environment.



# Organisation

The European training course is organized by Wageningen UR Food & Biobased Research, Wageningen Business School and the VLAG doctoral school in collaboration with the following networks and partners:

IEA Bioenergy | Task 42 Biorefinery |



# Tentative Programme

## SUNDAY 28 OCTOBER 2012

Arrival participants *Evening – Welcome reception*

## DAY 1 MONDAY 29 OCTOBER 2012

Full day lecture programme organised by IEA Bioenergy Task42

### Morning

- Overview IEA Bioenergy Task42 on Biorefining
- Biorefining as Driver for a Future Bio(based) Economy
- Sustainable Biomass Supply Chain Development – Biomass Availability vs. Biomass Use
- Upgrading of Existing Industrial Infrastructures to Integrated Biorefineries
- Integration in Conventional Oil Refineries
- Biorefinery Cluster Development

### Afternoon

- Lignocellulosic Feedstock Biorefinery
- Algae Biorefinery
- Green Biorefinery
- Value Added Products from Biorefineries – Bio-Based Chemicals
- Bioenergy/Biofuel-Driven Biorefineries
- Biorefining Sustainability Aspects
- Intro Excursion Programme of Tuesday

## DAY 2 TUESDAY 30 OCTOBER 2012

Full day excursion programme organised by Wageningen UR

Half day to ACRRES, National centre for the application of sustainable energy and green raw materials, Lelystad, The Netherlands.

Other half day excursion, to Biorefining project in the Netherlands.

## DAY 3 WEDNESDAY 31 OCTOBER 2012

In-depth training modules, 2 in parallel, organised by BIOCORE/ COST/Wageningen UR

- Module 1. Feedstock Availability
- Module 2. LC Biomass Fractionation & Conversion
- Module 3. Industrial Biotechnology: state-of-the-art strategies for the development of efficient biocatalysts
- Module 4. Down Stream Processing of Bio-based Intermediates to Final Products

## DAY 4 THURSDAY 1 NOVEMBER 2012

In-depth training modules, 2 in parallel, organised by BIOCORE/ COST/Wageningen UR

- Module 5. Design and Optimisation of Biorefinery Processes
- Module 6. Multi-criteria Assessment of Complex Biorefinery Systems and Their Products
- Module 7. Analytical Techniques in Biorefining
- Module 8. Thermochemical conversion of biomass
- Module 9. Catalytic strategies for conversion of biomass



# Course coordinators

- Drs. ing. René Van Ree (IEA Bioenergy Task42 Biorefining)
- Dr. ing. Richard Gosselink (Wageningen UR Food & Biobased Research, Wageningen)
- Ir. David Postma (Wageningen UR, Wageningen Business School, Wageningen)
- Dr. Michael O' Donohue (INRA, Toulouse)
- Prof. dr. Antonis Kokossis (NTUA, Athens)

# Selected lecturers

- Prof. dr. Johan Sanders (Wageningen University, NL)
- Drs. ing. René van Ree (IEA Bioenergy Task42 Biorefining)
- Dr. Michael O' Donohue (INRA, FR)
- Dr. ir. Ed de Jong (Avantium Chemicals BV, NL)
- Dr. Gerfried Jungmeier (Joanneum Research, AT)
- Prof. dr. Antonis Kokossis (NTUA, GR)
- Prof. dr. René Wijffels (Wageningen University, NL)
- Dr. Michael Mandl (Joanneum Research, AT)
- Dr. Rommie van der Weide (Acres, NL)
- Dr. Rob Bakker (Wageningen UR Food & Biobased Research, NL)
- And others