



## Research position available

### **Biomass biorefinery : biomass conversion to green chemicals by fermentation**

The unit of Bioengineering (<http://www.uclouvain.be/gebi>) at Earth & Life Institute, University of Louvain, Louvain-la-Neuve, Belgium, is seeking a highly motivated scientist.

The research project aims at mastering the non-axenic anaerobic fermentation of raw plant biomass to optimise its conversion to ethanol and volatile fatty acids, as a source of renewable raw material for the biofuel and chemical industry. Originality of the approach will be to master the fermentation profile while working under non-axenic conditions (= presence of natural mixed microbial populations). The research will focus on the influence of the imposed physico-chemical conditions (pH, water availability, substrate composition, extracted products...) on the fermentation profile, reproducibility and yield of the conversion. The experimental work will involve fermentation of raw plant material and monitoring of the fermentation products. This research is part of a wider project with other Walloon academic partners.

#### Candidate profile:

- MSc or PhD with good background in bioengineering or bioprocess engineering, knowledge of fermentation and microbial metabolism; experience with ethanolic or acidogenic fermentation and/or with the corresponding analytical techniques (GC, HPLC, wet chemistry).
- Research-minded, rigour, responsibility, self-motivation, autonomy, team-spirit.

#### Language:

English and French. Immediate good knowledge of French is mandatory for writing the reports to the funding authority and communicating with partners.

Duration: 01/03/2010-30/06/2011

Deadline for submission of application (CV+ motivation letter):  
01/03/2010

#### Contact:

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## Research position available

### **Biomass biorefinery : agro-waste conversion to value-added green chemicals by fermentation**

The unit of Bioengineering (<http://www.uclouvain.be/gebi>) at Earth & Life Institute, University of Louvain, Louvain-la-Neuve, Belgium, is seeking a highly motivated scientist.

In the first phase (14 months), the research project will aim at identifying (litterature review) the value-added (bio)chemicals or biocatalysts that can be recovered by fermentation / extraction from specific residues of agro-industrial activities. The aim will also be to experimentally characterise the chemical composition, anaerobic biodegradability, conversion rate and biocatalytic activity of various agro-industrial residues with the methods available at unit of Bioengineering.

After evaluation of the results with the other academic and industrial project partners, the second phase of the project (34 months) will focus on experimental investigation of fermentation processes for the bioconversion of the selected agro-industrial residues. The results will be shared with other academic and industrial partners in order to design and assess the most suitable industrial processes.

The experimental work will involve analysis and fermentation of biomass and monitoring of the fermentation products.

#### Candidate profile:

- MSc or PhD with good background in bioengineering or bioprocess engineering, knowledge of fermentation and microbial metabolism; experience with ethanolic, acidogenic or methanogenic fermentation and/or with the corresponding analytical techniques (GC, HPLC, wet chemistry).
- Research-minded, rigour, responsibility, self-motivation, autonomy, team-spirit.

#### Language:

English and French. Immediate good knowledge of French is mandatory for writing the reports to the funding authority and communicating with partners.

Duration: 01/03/2010. The project is scheduled first for 14 months; after successful evaluation by the funding agency, it will be extended by an additional 34 months.

Deadline for submission of application (CV + motivation letter):

01/03/2010

#### Contact:

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