



## WORKSHOP on

# MULTIVARIATE IMAGING ANALYSIS

8<sup>th</sup> November 2007

Centre Wallon de Recherches  
Agronomiques  
Chaussee de Namur, 24  
Gembloux - Belgium



The Belgian Chemometric Society

<http://chemometrie.kvcv.be/>

### Context

Imaging is a powerful approach to quality control of pharmaceutical products, to remote sensing, to tackle environmental, agricultural or mineralogical challenges as well as to safety and quality control of agro-food products among others.

Instruments designed for multispectral or hyperspectral imaging analysis play and will play more and more a key role in quality control. For analysts and chemometricians, it is something of a revolution to acquire spatially resolved chemical information, with hundreds or thousands of spectra (including tens or hundreds of variables) and this for each sample, process or experiment, instead of just one spectrum as in classical spectroscopy.

The aim of this workshop is to give an overview of different imaging systems as well as the integration of chemometrics and data processing.

### Venue

The workshop will be hosted by the Quality Department of Agricultural Products of the Walloon Agricultural Research Centre (CRA-W) in Gembloux. This location is easily accessible by train or car (only 50 kilometres from Brussels).

### Date of the workshop

November 8, 2007

### Fee

Participation to this workshop is €50 per participant (€30 for KVCV-BCS members).

### Registration

Registration is done by filling in the registration form at the website of the BCS (<http://chemometrie.kvcv.be/>).

### Agenda

- 13.30 Arrival at the CRA-W
- 14.00 [Welcome and Introduction](#)  
**Pierre Dardenne**  
*Quality of Agricultural Products department, CRA-W, Belgium*
- 14.15 [Image processing and measurements in the material sciences and biology](#)  
**Silvia Blacher**  
*Laboratoire de Genie Chimique et Laboratoire de Biologie de Tumeurs et du Development. Université de Liège, Belgium*
- 14.45 [Multivariate Analysis of Hyperspectral Images](#)  
**James Burger**  
*BurgerMetrics, Inc., USA*
- 15.15 Coffee Break and lab visit  
Malvern exhibition
- 15.45 [How to mix spatial and spectral information when processing hyperspectral images](#)  
**Gilles Rabatel**  
*Research Group Cemagref - ENSAM - CIRAD Information and Technologies for Agro-processes, France*
- 16.15 [Hyperspectral imagery applications for agricultural and environmental monitoring](#)  
**Dominique Buffet**  
*Biometry, Data processing and Agrometeorology Unit CRA-W, Belgium*
- 16.45 Lab visit and Malvern exhibition
- 17.30 Close of workshop  
Drink

## The audience

The workshop is rather technical and aimed at people with at least a basic knowledge of spectroscopy, chemometrics and imaging techniques.

## How to get to Gembloux

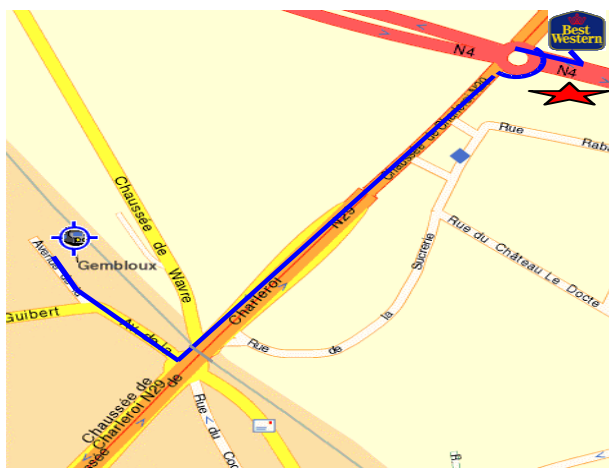
### *By train from Brussels*

At any station in Brussels (Midi, Central, North, Schumann and Luxembourg) take a direct train (every half an hour) direction Namur-Luxembourg.

Those trains stop in Ottignies and in Gembloux.

You can consult directly the timetable of the national railway company website: [www.b-rail.be](http://www.b-rail.be).

It takes 10 min walking from Gembloux Station, to the Quality department of the CRA-W.



### *By car*

#### *From Brussels or from Luxemburg (E411)*

Take the exit 11 Thorembais. Follow the direction Charleroi–Gembloux. A bit before the round about with the big metal ring you can cross the road in front of the entrance of Hotel 3 clés.

#### *From Liege (E42)*

Take the exit 12 Namur Ouest. Turn to the right and follow the direction Brussels–Gembloux (N4 road). Follow this road until you reach Gembloux. Keep following the road until you see the Hotel 3 clés on your right side, we're located on the other side.

## The CRA-W

Established in 1872, the Walloon Agricultural Research Centre (CRA-W) is a leading scientific institution, under the Walloon Ministry of Agriculture. CRA-W employs some 450 people including 120 scientists. Its offices, laboratories, greenhouses, orchards and experimental plots occupy an area of about 300 ha. The expertise available at this multidisciplinary research institution covers the following areas: plant breeding, genetic engineering, plant genetic resources management, integrated plant protection, farming systems, agricultural engineering and agro-meteorology, optimisation of agricultural foods productions and analysis and quality control of agro-food products.

The Quality Department of Agricultural Products of the CRA has internationally renowned expertise in spectrometric analysis applied to the qualitative management of agro-food products. As far as research is concerned, we have gone to great lengths to develop analytical techniques that will enable us to measure or assess the quality of agricultural products from various angles. The expertise obtained from this activity gives us the opportunity to offer services to industry as well as to society (analyses conducted on behalf of inspection offices in the Ministry of Agriculture and the Ministry of Public Health). The development of analytical systems to check the authenticity of agricultural products is a priority focus of research within the department. We are trying to position ourselves at the international level in this area. The Quality Department has an expertise on the development and validation of analytical methods for the authentication of agro-food products. This expertise covers different techniques including microscopy, spectroscopy, DNA technology, chromatography or chemometrics among others.

## The Belgian Chemometrics Society

The Belgian Chemometrics Society (BCS) aims at promoting Chemometrics in industry, through workshops and symposia.



## For more information:

CRA-W – Quality Department  
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Or via the BCS website:

<http://chemometrie.kvcv.be/>