

## PROGRAMME

Type	Title	SubTitle
Theory	Introduction, conclusion	Welcome, introduction, programme, conclusion & debriefing
Theory	Regulation	Compounds to monitor International Food Regulation (particular case of EU) Risk assessment and regulatory limits FVO requirements for third countries
Theory	Sample Preparation	Sample prep. Part I: introduction and decision tree Sample prep. Part II: lyophilisation, hydrolysis...
Practical		Sample prep. Part III: extraction and purification Special case of Pesticides, Persistent Organic Pollutants, Corticosteroids, Antibiotics, beta-Agonists, Mycotoxins
Theory	Screening Methods	Antibody based assays Cell based assays ELISA, EIA, RIA...
Practical		Biosensors DNA microarrays
Theory	Confirmatory Methods	MS part I : Ionisation MS part II : Detection and acquisition Chromatographic-MS coupling Structural elucidation (beta-agonists compounds)
Practical		GC-MS and LC-MS practical aspects (optimisation, maintenance) Special case of Corticosteroids, Perfluorinated compounds, Boldenone, Pesticides, Persistent Organic Pollutants, Anabolic steroids GC-MS, LC-MS and GC-HRMS data analysis
Theory	Quality in analytical laboratories	European Criteria Validation of analytical methods Quality management
Practical		European Criteria Validation of analytical methods

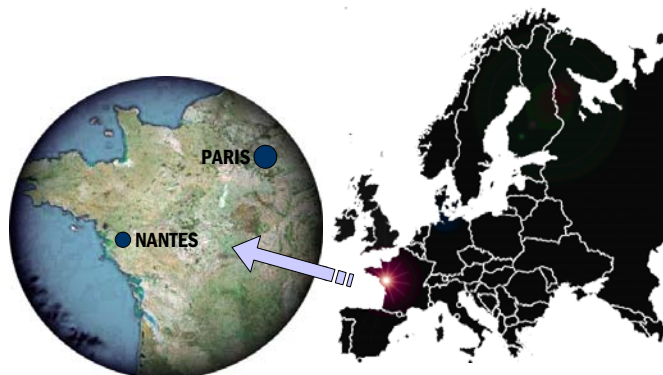
Each lecturer pays particular attention to the trainees interests. A detailed programme is available for each session on SARAF website.

## LOCATION

The SARAF training is held within the National Veterinary School of Nantes (France).

The school is about 20 minutes by bus or tram from the city center, Nantes is 380 km south-west from Paris (2 hours by train, 45 min by plane), and 30 min from the Atlantic Sea Coast.

Bus shuttles are organised between the town center and the vet school every morning and evening.



### SARAF - ENVN

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NATIONAL VETERINARY SCHOOL  
NANTES, FRANCE



School for Advanced Residue Analysis in Food



## INTRODUCTION



**SARAF** is a Continuous Education Programme from the National Veterinary School of Nantes aiming at training engineers and technicians to the analysis of residues and contaminants in food.

This concept was elaborated in 2001 by a European network of laboratories in charge of these measures and has been coordinated since its creation by the LABERCA (National Reference Laboratory for the analysis of growth promoters and several classes of environmental contaminants in food). Most trainees are scientists involved in residue control laboratories in non-European countries. SARAF has already welcomed 157 participants from 64 countries. By the end of 2007, 10 Training Sessions had been organised, 3 of which were specially tailored for the European Commission (DG-Trade).

## COURSE ORGANISATION

1– The course takes place over **2 weeks** in the National Veterinary School of Nantes and can accommodate 20 participants. It includes both theoretical and practical lectures in small groups. It constitutes a unique opportunity to build up a network of professional contacts throughout the world.

2– Training periods of **1-4 weeks** can be organised in participating SARAF laboratories to suit the participant's specific needs.

## OBJECTIVES

The objective is to give technicians, scientists, engineers and postgraduate students in analytical chemistry enjoying a good scientific background and professional experience in the field of residue analysis, the opportunity to:

- Improve their knowledge of analytical chemistry and especially of the methodology applied to the control of residues and contaminants in food.
- Be trained on hyphenated techniques involving gas and liquid chromatography coupled to sophisticated detectors, such as mass spectrometers.
- Learn and put into practice examples of efficient methods applied in most European laboratories for the control of residues and contaminants in food.
- Learn how to validate a method.
- Get a better knowledge of the general regulation regarding residues and contaminants in food.
- Increase their knowledge of quality assurance applied to assays and method development.
- Create their own network for further technical and scientific cooperation.

## CONTRIBUTORS

Contributors have been selected for their recognised experience in the field. Besides their role in organisation, they provide lectures, perform demonstrations and organise hands-on sessions.

François André (F)  
Jean-Philippe Antignac (F)  
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Michael O'Keeffe (IRL)  
Fabrice Monteau (F)  
Gaud Pinel (F)  
Frédéric Poulain (F)  
Pascal Sanders (F)  
Ed Houghton (UK)

## FACILITIES AND PRACTICAL ASPECTS

All lectures and administrative procedures are in **English**. Trainees are provided throughout the course with all the necessary printouts. Besides, a CD-rom including all lectures, photographs taken during the Session and any other useful information is handed out to them at the end of the course.

Lectures take place in a Conference room equipped with a video projector and the practical demonstrations are held in a fully equipped analytical laboratory (3 GC-MS, 3 GC-HRMS, 2 GC-MS/MS, 2 LC-MS/MS, 1 LC-HRMS<sup>n</sup> and 1 GC-C-IRMS instruments) or in a room dedicated to computer hands-on work.

Coffee breaks, lunches and social events, are privileged moments to discuss and communicate between lecturers and trainees.

Internet facilities are provided within the conference room.

At the end of the course, participants are asked to fill in an individual evaluation of the training.

