



# HTC-11

## Hyphenated Techniques for Chromatography

# HTSP

## Hyphenated Techniques for Sample Preparation

One-day Short Course

## Comprehensive two-dimensional separations

Course Teachers

**Robert Shellie (University of Tasmania)**




**Peter Schoenmakers (University of Amsterdam)**

**Bruges, Monday January 26<sup>th</sup>, 2010**

### Course summary

This course will provide an introduction to comprehensive two-dimensional separations. The main focus will be on comprehensive two-dimensional gas chromatography (GC×GC) and on comprehensive two-dimensional liquid chromatography (LC×LC).





Questions that will be addressed include

-  Why do we want to use comprehensive two-dimensional separations?
-  What is the best way to perform comprehensive two-dimensional separations?
-  What are suitable applications for comprehensive two-dimensional separations (and what are not)?

The basic principles and the nomenclature of comprehensive two-dimensional separations will be explained and the advantages and disadvantages of the methods will be critically discussed. Hyphenation of comprehensive two-dimensional separations with mass spectrometry and other detection methods will also be covered.

Numerous applications will be presented to illustrate the general concepts.

## Key topics

-  General principles and advantages of comprehensive two-dimensional separations
-  Principles, experimental realization of comprehensive two-dimensional gas and liquid chromatography (GCxGC and LCxLC)
-  Design and optimization of GCxGC and LCxLC separations
-  Applications of GCxGC and LCxLC.

## Who should attend?

Chemists and analysts who experience a need for high-resolution separation of complex samples in life science or pharmaceutical industry, food science and control, environmental research and monitoring, industrial-product characterization, *etc.*, should consider attending this course. The course will be structured in such a way as to introduce newcomers and potential users to the principles and practices of comprehensive two-dimensional separations.

## About the instructors

Dr. Robert Shellie has been actively engaged in the field of GCxGC for a little over ten years. He received his formal training in Prof Marriott's laboratory at the Australian Centre for Research on Separation Science (ACROSS) in Melbourne and joined the University of Tasmania node of ACROSS after completing a postdoctoral fellowship in metabolomics at the Max-Planck Institute of Molecular Plant Physiology (Potsdam, Germany). He has made major pioneering contributions to GCxGC during the last decade and has experience with many practical applications of GCxGC and GCxGC-MS in environmental science, metabolomics, and flavour and fragrance analysis. He was the recipient of the HTC Award in 2008.

Prof. Peter Schoenmakers worked as industrial chemist for Philips and Shell before joining the University of Amsterdam. He was early to realize the potential of GCxGC for the analysis of oil-derived products and he was active in various projects that involved the optimization and application of GCxGC, as well as data analysis. He stimulated the application of LCxLC for polymers and for various other complex samples and he contributed to the theory of LCxLC separations.

**For more information see: [www.ordibo.be/HTC](http://www.ordibo.be/HTC)**