

# HPLC TRAINING COURSES

2011

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## 5 COURSES:

1. How to Run HPLC Methods
2. How to Develop HPLC Methods
3. How to Validate Chromatographic Methods
4. How to Develop HPLC Methods for Challenging Separations
5. How to Troubleshoot HPLC

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...breaking with tradition<sup>SM</sup>

# HOW TO RUN HPLC METHODS

Course 1  
SS0-5943

## COURSE SUMMARY:

Learn how to set up and run HPLC analysis with full understanding of all the method parameters such as the column, the mobile phase, the instrumentation, and sample preparation, and how to interpret and quantify the results of the analysis.

This course is ideal for those who are new to HPLC.

## COURSE OUTLINE:

- HPLC method parameters:
  - Columns and stationary phase
  - Mobile phase
  - Instrumentation
  - Preparation of test solutions
  - Directions for analysis
- Setting up HPLC systems for analysis
- Interpreting results from HPLC analysis:
  - Integration
  - System suitability
  - Quantification techniques

## DATES & VENUES:

Glasgow	30.03.11
London-West	31.03.11
Milton Keynes	12.04.11
NW England	13.04.11

## PRACTICAL SKILLS ACQUIRED:

This course will enable you to implement HPLC analytical methods by transferring the parameters from the method to your HPLC system. In addition you will be able to:

1. Understand what is meant by all the parameters in an HPLC analytical method.
2. Follow an HPLC analytical method to set up an HPLC system for analysis.
3. Run an HPLC analytical method and acquire chromatographic results.
4. Interpret chromatograms obtained from HPLC analysis.
5. Calculate analytical results for HPLC analysis.

# HOW TO DEVELOP HPLC METHODS

Course 2  
SS0-5947

## COURSE SUMMARY:

Learn how to select appropriate method conditions and perform suitable investigative experiments to obtain a set of method parameters which enables the desired separation for mixtures of analytes.

This course is ideal for those who have experience of running HPLC methods and now want to learn how to develop new methods.

## COURSE OUTLINE:

- Developing a method using a 5-step strategy:
  - Setting suitable objectives for method development
  - Assessing all available information
  - Selecting suitable samples
  - Performing scouting experiments to select suitable initial conditions
  - Optimising the method to define method parameters

## DATES & VENUES:

NW England	17.05.11
Edinburgh	18.05.11
London-West	24.05.11
Milton Keynes	25.05.11

## PRACTICAL SKILLS ACQUIRED:

This course will enable you to take a strategic approach to developing HPLC methods with an understanding of the factors which can be adjusted to manipulate the retention time of analytes. In addition you will be able to:

1. Define the objectives for the development of a HPLC analytical method.
2. Effectively assess all the available relevant information relating to the desired method, e.g. pKa of the analyte.
3. Select and prepare a suitable sample or samples to be used for the method development.
4. Select suitable scouting conditions to find a suitable column and mobile phase system.
5. Optimise the chromatographic conditions to result in the best possible separation.

# HOW TO VALIDATE CHROMATOGRAPHIC METHODS

Course 3  
SS0-7446

## COURSE SUMMARY:

Learn how to design suitable experiments for the validation of an analytical method, selecting the appropriate validation parameters, and then interpret the results obtained using statistics.

This course is ideal for those who are confident running chromatographic methods and want to learn how to perform validation.

## COURSE OUTLINE:

- Validation parameter for investigation:
  - Selectivity, accuracy, precision, calibration curve, range, limit of detection and quantification, robustness
- Reporting validation data:
  - Interpreting validation results
  - Calculating appropriate statistics

- Planning and executing a validation study:
  - Designing suitable experiments
  - Setting acceptance criteria

## DATES & VENUES:

NW England	14.09.11
London-West	21.09.11

## PRACTICAL SKILLS ACQUIRED:

This course will enable you to validate chromatographic methods by design of suitable experiments and interpretation of the results obtained. In addition you will be able to:

1. Understand and define fully the parameters used for method validation.
2. Plan a validation study and design the necessary experiments.
3. Calculate the statistics required for analytical method validation.
4. Interpret the results of validation and generate a suitable report on completion.

# HOW TO DEVELOP HPLC METHODS FOR CHALLENGING SEPARATIONS

Course 4  
SS0-5946

## COURSE SUMMARY:

Learn how to implement strategies to achieve satisfactory separation for 'complex' samples and use computer modelling to develop robust and fit for purpose HPLC methods.

This course is ideal for those who have experience of developing HPLC methods but want to increase their knowledge to deal with more challenging separations.

## COURSE OUTLINE:

- Reasons why some separations are 'challenging'
  - Samples containing large numbers of analytes and/or complex matrix
  - Problematic molecules and mixtures
- Using computer simulation to develop fit for purpose HPLC methods

- Implementing a 5-step strategy for method development of complex samples [see 'How to Develop HPLC Methods']

## DATES & VENUES:

NW England	13.09.11
Milton Keynes	20.09.11

## PRACTICAL SKILLS ACQUIRED:

This course will enable you to find solutions for difficult HPLC separations. In addition you will be able to:

1. Understand why some separations can be challenging.
2. Identify potential problem separations.
3. Apply strategies to achieve satisfactory separations for 'complex' samples.
4. Use computer modelling as an aid to HPLC method development.

# HOW TO TROUBLESHOOT HPLC

Course 5  
SS0-7449

## COURSE SUMMARY:

Learn how to find solutions for problems encountered when running HPLC analysis by diagnosing symptoms and implementing appropriate preventative measures.

This course is ideal for those who have experience of using HPLC and now want to develop their skills further.

## COURSE OUTLINE:

- Overview of the HPLC and how it works:
  - Mobile phase, pumps, injectors, columns, detectors and connections
- Common problems and preventative measures
- Problem solving strategy:
  - Assessing the symptoms
  - Making diagnosis
  - Finding the appropriate solution

## DATES & VENUES:

Edinburgh	08.11.11
NW England	09.11.11
London-West	15.11.11
Milton Keynes	16.11.11

## PRACTICAL SKILLS ACQUIRED:

This course will enable you to go back to your lab with a full understanding of why problems may arise with your HPLC system and give you the skills and knowledge to both prevent and resolve those problems. In addition you will be able to:

1. Understand how HPLC works and the role of each component in an HPLC system.
2. Understand how problems can arise in the individual components of an HPLC system.
3. Implement measures which prevent problems occurring.
4. Use a systematic problem-solving approach to HPLC troubleshooting.
5. Diagnose and resolve problems associated with HPLC.

### Terms and Conditions

Subject to Phenomenex Standard Terms & Conditions, which may be viewed at [www.phenomenex.com/TermsAndConditions](http://www.phenomenex.com/TermsAndConditions).

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## COURSE PRESENTER: OONA MCPOLIN

Oona has considerable experience and is fully qualified in the areas of both pharmaceutical analysis and training practice. She has worked as an analytical chemist in the pharmaceutical industry for over 10 years on a range of drug development projects and has been responsible for many pharmaceutical analysis training programmes during this time. Her area of expertise is in the technique of HPLC with particular interest in strategies for method development. Oona is the author of two books, 'An Introduction to HPLC for Pharmaceutical Analysis' and 'Validation of Analytical Methods for Pharmaceutical Analysis'. Oona has obtained the industry standard qualification for training, the Certificate in Training Practice, awarded by the Chartered Institute of Personnel and Development [CIPD].

## QUALIFICATIONS:

- 1993 BSc Hons Chemistry, Queen's University of Belfast
- 1994 MSc Applied Environmental Sciences, Queen's University of Belfast
- 2008 Certificate in Training Practice, Chartered Institute of Personnel and Development [CIPD]. Received a High Achiever's Award from the CIPD NI branch

## AFFILIATIONS:

- Member of the Royal Society of Chemistry (MRSC)
- Chartered Chemist (CChem)
- Chartered Scientist (CSci)
- Associate member of the Chartered Institute of Personnel and Development [CIPD]

# REGISTRATION INFORMATION

- |  |          |
|--|----------|
| <input type="checkbox"/> How to Run HPLC Methods                                 | SS0-5943 |
| <input type="checkbox"/> How to Develop HPLC Methods                             | SS0-5947 |
| <input type="checkbox"/> How to Validate Chromatographic Methods                 | SS0-7446 |
| <input type="checkbox"/> How to Develop HPLC Methods for Challenging Separations | SS0-5946 |
| <input type="checkbox"/> How to Troubleshoot HPLC                                | SS0-7449 |

Course price: £195 + VAT per delegate  
The price includes: Full day training (including post training assessment), course literature, technical brochures, lunch and refreshments.

## 3 WAYS TO REGISTER:

1. Tel: UK: 01625 501 367 Eire: 01 247 5405
2. Fax: +44 (0)1625 501 796
3. Email: [ukinfo@phenomenex.com](mailto:ukinfo@phenomenex.com)

## METHOD OF PAYMENT:

- CHEQUE  
 CREDIT CARD  
 PURCHASE ORDER

CHEQUE: Please make payable to Phenomenex Ltd

### CREDIT CARD:

To pay by credit card, please call:  
UK: 01625 501367 or Eire: 01 247 5405

## PURCHASE ORDER NUMBER:

## DELEGATE NAME(S):

1.

2.

3.

4.

## COURSE CODE

## COURSE DATE

## COMPANY NAME:

## ADDRESS: (INC. POSTCODE)

TEL:

FAX:

EMAIL:

## METHOD OF PAYMENT:

## BILLING DETAILS: (IF DIFFERENT FROM ABOVE)

## COMPANY NAME:

## ADDRESS: (INC. POSTCODE)

TEL:

FAX:

EMAIL:

## CANCELLATION CHARGES

4 weeks prior to course date, 50% refund; No refund will be given for cancellations after this time. If for some reason you cannot attend you may send someone in your place by calling in advance with their name.





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