course dates 13th – 15th December 2010

Practical Proteomics

A three day course for those in industry and academia who wish to gain a theoretical and practical understanding of the exciting possibilities and developments within the field of proteomics.

Comments from previous attendees:

"An excellent balance between theory and practical"

"The lectures were first class – experts clearly really were experts."

"This course is really fantastic! Difficult theoretical material was covered very well. The enthusiasm and expertise of lecturers and practical demonstrators was incredible."

BMSP

THE UNIVERSITY OF WARWICK

Practical Proteomics

Overview

Proteomics requires the identification and quantitation of ever-smaller amounts of proteins in increasingly complex systems. Modern approaches have been established to enable this to be accomplished in an automated, sensitive and selective fashion. This course will provide the theoretical underpinning of the methods used, with sixteen practical sessions undertaken in a fully equipped, state-of-the-art laboratory including ESI, ESI-MS/MS, nanoflow LC, MALDI, protein separation including both gel and non-gel based approaches, automated digestion and sophisticated database searching. The course now includes theoretical and practical mass spectrometry-based quantitative techniques including examples of prokaryotic, eukaryotic and plasma proteomic case studies.

Application Form: (Closing date for applications: 29th November 2010)

Practical Proteomics December 2010

I wish to reserve a place on the above course.

Name:.....

Address: .....

.....

..... Post Code: .....

Work Tel / Fax / Email: .....

Institution: .....

Position Held: .....

Course fee includes course dinner on evening of Tuesday 14th December, lunches, refreshments and a comprehensive course manual.

Please indicate which fee is appropriate:-

Course fee: £800 (commercial rate) £550 (academic/student rate)

To Register: Please return completed form with the full fee or a deposit of £250. Please send either a cheque made payable to "University of Warwick" or an order number and invoicing details. The balance of the course fee is required by 26th November 2010.

Please return completed application form to:

Dr. Charlotte Moonan, School of Life Sciences,
The University of Warwick, Coventry CV4 7AL UK.

13th – 15th December 2010

The course will be informal but intensive with numbers limited to 15 and a high level of staffing to encourage interaction, questions and discussion. Participants will have the opportunity to discuss their interests and research with course tutors and other participants.

A comprehensive course manual will be provided.

Theory

The lecture programme has been designed to provide the underpinning theory required in modern proteomics studies. This will include protein separation, mass spectrometric characterisation, quantification, sequencing and the use of databases for identification of proteins. This will be illustrated by the use of appropriate practical examples

Day 1:

- ESI/MALDI ionisation
- Quadrupole/ion trap/time-of-flight and FT-ICR mass analysers
- Mass accuracy and resolution
- Intact protein molecular weight determination
- Protein separation approaches

Day 2:

- Digestion strategies
- MS/MS of peptides
- Database creation and searching
- Labelled and non-labelled approaches to differential proteomics

Day 3:

- Characterisation of post-translational modifications
- Case studies
- Recent developments

Practical Programme

Accompanying the lectures is an intensive practical programme concentrating on the skills required to carry out modern proteomic studies.

Day 1:

- Protein fractionation including gel and liquid-based separation methodologies
- Protein molecular weight determination
- Automated protein excision, digestion and extraction
- Analysis of digested proteins by means of MALDI-MS, ESI-MS and ESI-MS/MS

Day 2:

- Interpretation of MS/MS data
- The use of software for de novo sequencing of peptides
- Nanoflow liquid chromatography
- Protein profiling – shotgun proteomics

Day 3:

- Automated data dependent and independent acquisition including protein identification
- Offline database interrogation using MS/MS data
- Characterisation of post-translational modifications
- Multiple reaction monitoring
- Labelled and non-labelled mass spectrometry-based quantitative proteomics

Practical Proteomics

Course Venue

The University of Warwick ranks in the top ten of the country's one hundred universities. The School of Life Sciences has an international reputation in fundamental and strategic research. Housed on an integrated self-contained site the department has well-equipped research and teaching laboratories, support facilities, and modern teaching rooms.

The University is situated in a country setting 3 miles from Coventry on a large, scenic campus. There is easy access by road, rail (London - 60 minutes; Birmingham - 17 minutes) and air (Birmingham International Airport - 12 miles).

Teaching

Teaching to be carried out by the Life Sciences BioMedical Mass Spectrometry and Proteomics Team at Warwick (www.bio.warwick.ac.uk/bmsp), including Professors Jim Scrivens and Keith Jennings.

Registration

Course dates:	13th –15th December 2010
Closing date:	29th November 2010
Course limit:	15 participants
Fee:	Course fee of £800 for commercial sector employees and £550 for academics. Balance required by 26th November 2010. The course fee is non-refundable for withdrawals made less than seven days prior to the start of the course. Substitutions may be made at any time. Cheques payable to 'University of Warwick'.

Enquiries to:

Dr. Charlotte Moonan
School of Life Sciences, The University of Warwick, Coventry CV4 7AL. UK
Tel: 024 7652 3540 Fax: 024 7652 3701 Email: Charlotte.Moonan@warwick.ac.uk

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