

Advances in Separation Science

The Chromatographic Spring Symposium & Annual General Meeting

Paul Ferguson, Vice-President - The Chromatographic Society



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The Chromatographic Society's Spring Symposium and Annual General Meeting will be held at the Novartis site in Horsham (West Sussex) on Wednesday 11th and Thursday 12th May 2011. The theme for the meeting is "Advances in Separation Science" with a particular focus on pharmaceutical drug discovery. The Spring Symposium will be held over one-and-a-half days allowing for an extensive range of presentations from academics, industrial speakers and vendors, as well as significant exhibition and networking time. There will also be a Symposium dinner at a local hotel, but capacity is limited to a maximum of 80 attendees. Attendance will therefore be on a first-come-first served basis as indicated during delegate registration. The preliminary programme for the Symposium is shown below.

Horsham is the UK research site for the pharmaceutical giant Novartis where their inhalation portfolio is researched. As the focus of the meeting will be on small-molecule analysis (principally pharmaceutical), this is a very apt setting for this symposium. Waters have kindly agreed to be principal sponsor for the meeting, and the Chromatographic Society would like to thank and acknowledge them for their support. Our first keynote lecture will be provided by Prof. Wolfgang Lindner of the University of Vienna. Prof. Lindner is famous for his work in the field of chiral chromatography and The Chromatographic Society recognised his achievements in the field by awarding him the Martin medal in 2009 (having previously been awarded the Jubilee medal in 1991). His talk will be "Enantiomer Separations with Chiral Ion Exchangers, a Unique Class of Chiral Columns" where he will discuss the application of his quinine and quinidine based ion exchange chiral columns^{1,2}. The second keynote lecture speaker has not yet been finalised, but the organisers are in discussion with high quality scientists from both the US and Europe to present in the Wednesday afternoon session.

Also that afternoon, there will be a session on analytical support of drug discovery. Presentations in the session will be provided by Dr John Langley and Dr Brian Everatt (University of Southampton and Novartis respectively). John will provide an overview on the hyphenation of SFC to MS and its pharmaceutical application areas including collaborative research with a number of pharmaceutical companies^{3,4}. Brian will then

discuss "Open Access Lab to Lab Automation" highlighting Novartis's novel approach to open access analytical support of synthetic chemists through inter-lab sample transportation.

The second day will be opened with a session dedicated to Dr Uwe Neue of Waters. As many of you will be aware, Uwe sadly passed away in December 2010 after a short illness. Uwe was a 'heavyweight' in the world of separation science contributing over 130 peer reviewed publications and books on the subject. He contributed much to our understanding of column technology and latterly ultra-high pressure chromatography. He was open and generous with his deep knowledge of chromatography and The Chromatographic Society, with the kind permission of Waters, will acknowledge his contribution in this session. Accordingly three UK based scientists who worked with him will present in his memory. The first presentation will be Prof. Peter Myers (University of Liverpool) who was a close friend and former Waters colleague of Uwe. He will be followed by James Heaton (Kings College London) who worked with Uwe during his current doctoral studies⁵. The session will be completed by Dr David McCalley (University of the West of England), who collaborated extensively on fundamental aspects of chromatography with Uwe, presenting his work on "Are superficially porous particles a viable alternative to sub-2 micron particles for fast, efficient analysis in HPLC?"⁶⁻⁸.

In the afternoon, the second invited lecturer session will reflect on SFC and alternative purification techniques. As many of these techniques are utilised extensively in pharma, this will be a session with a high industrial flavour. The first presentation will be provided by the renowned Dr Bob Boughtflower (GSK, Stevenage) who will discuss further advances in their LC fraction trapping strategy⁹. Bob's presentation will be followed by John Burnett (Eli Lilly) who will discuss "Exploring alternative SFC purification strategies and novel uses of CO₂ in support of Discovery Chemistry uses of CO₂ in support of Discovery Chemistry"¹⁰. Following the break, the symposium programme will be completed with presentations by Dr Jenny Kingston (Novartis) on "Purification strategies to aid Medicinal Chemists" and Nathalie Douillet (GSK, UK) who will discuss GSK's collaborative efforts with

Dynamic Extractions on "Potential for the Application of Counter Current Chromatography in Chemical Development".

On both days there will be sessions dedicated to vendor presentations which will mesh with the invited speaker programme. In these sessions the vendors will provide insight into their current product portfolios and the application of their technologies to small molecule separations. These presentations are always scientifically strong and form a key aspect of the Spring Symposium. Vendors interested in sponsoring this event should contact our Secretariat Meeting Makers (see contact details below)

The Chromatographic Society's Annual General Meeting will also be held over the lunchtime of the second day of the symposium. All members of the Chromatographic Society are strongly urged to attend this and contribute their thoughts on the Society's direction. Non-members are also welcome to attend and learn more about the Society and our many outreach activities for the promotion of separation science in the UK and Europe.

A limited number of bursaries are being provided by the Chromatographic Society for students wishing to attend this meeting. Requests for these bursaries should be directed to Dr Amjad Khan (Amjad.Khan@astrazeneca.com). Registration for this meeting is now open and can be accessed through the Chromatographic Society website (<http://www.chromsoc.com/ChromsocEvents.aspx>). All enquiries for the meeting should be directed to our secretariat Meeting Makers (chromsoc@meetingmakers.co.uk). Further agenda updates will also be available on the Chromatographic Society website (<http://www.chromsoc.com/ChromsocEvents.aspx>).

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Chromatographic Society Spring Symposium & AGM

11th-12th May 2010, Novartis, Horsham, UK

Advances in Separation Science

Note preliminary agenda: Speakers, topic areas or presentation times may be subject to change

DAY 1

12:00 Registration and light buffet lunch

13:00 Welcome address – Alan Handley
(President of the Chromatographic Society)

Session 1: Current state-of –the art and future directions

13:15 Keynote Lecture 1:

Prof. Wolfgang Lindner (University of Vienna, Austria)
*Enantiomer Separations with Chiral Ion Exchangers,
a Unique Class of Chiral Columns*

14:00 Keynote Lecture 2: TBC

Scientific Vendor Presentations 1

14:40 Gold sponsor seminar: **Dr Rui Chen** (Waters SFC)
*Harnessing the power of Sub 2 µm Chromatographic
Particles in Supercritical Fluid Chromatography*

15:20 Tea Break

Scientific Vendor Presentations 2

15:40 Vendor lecture

16:00 Vendor lecture

16:20 Vendor lecture

16:40 Tea Break

Session 2: Invited lectures: Analytical Support of Drug Discovery

17:00 **Dr John Langley** (University of Southampton, UK)
*Achiral SFC-MS and Small Molecules
– An Analyst's View*

17:30 **Dr Brian Everatt** (Novartis, UK)
– Open Access Lab to Lab Automation

18:00 Close of Day 1 and Evening Arrangements

19:30 Symposium Dinner

DAY 2

9:00 Arrival and coffee

Session 3: Tribute to Dr Uwe Neue

9:30 **Prof. Peter Myers** (University of Liverpool)
*HPLC on a Compact Disc*10:00 **James Heaton** (Kings College London)
*Investigation into the effect and utility of temperature in ultra high performance liquid chromatography*10:30 **Dr David McCalley** (University of the West of England)
Are superficially porous particles a viable alternative to sub-2 micron particles for fast, efficient analysis in HPLC?

11:00 Tea Break

Scientific Vendor Presentations 3

11:40 **Vendor lecture**12:00 **Vendor lecture**12:20 **Vendor lecture**

12:40 Lunch

13:00 AGM

Session 4: SFC and Purification Strategies

14:00 **Dr Bob Boughtflower** (GSK, UK)
*LC fraction trapping update*14:30 **John Burnett** (Eli Lilly, UK)
Exploring alternative SFC purification strategies and novel uses of CO₂ in support of Discovery Chemistry

15:00 Tea break

15:30 **Dr Jenny Kingston** (Novartis, UK)
*Purification strategies to aid Medicinal Chemists*16:00 **Nathalie Douillet** (GSK, UK)
Potential for the Application of Counter Current Chromatography in Chemical Development

16:30 Closing Address: Alan Handley followed by lab tour for interested Delegates and Speakers

Software for improved Analysis of Target Compounds in Complex GC/MS Data

ALMSCO International announces the launch of its TargetView™ Software package, which has been designed to automate and improve detection and measurement of multiple target chemicals in complex GC/MS data sets. The software will benefit GC/MS users in a range of important fields, including environmental monitoring, food/flavour/fragrance profiling, forensic science and testing chemical emissions, from consumer goods.

While current compound identification methodology is often time consuming and prone to error (false positives/ negatives) even in expert hands, TargetView provides a simpler and more accurate way of identifying which target compounds are present in a sample. In addition to this it provides reliable peak area information to complement and support quantification by conventional GC/MS data handling packages. TargetView can also be used to identify the total number of compounds present in a sample (knowns and unknowns) by library searching.

Unlike alternative complex GC/MS software platforms, TargetView does not require a significant investment of time to become proficient. The interface and reporting format are easy to use with few parameters requiring manual setting and no need for in-depth knowledge in either deconvolution or chemometrics. Furthermore, the software package can process all common GC/MS data formats, thereby lending itself to simple integration with existing laboratory procedures. TargetView also works with chromatograms of worst-case complexity; e.g. with high numbers of analytes of varying concentrations and with high degrees of compound co-elution.

The new software package compares clean, deconvoluted mass spectral data against EI mass spectra in existing libraries (commercial or proprietary) using a sophisticated chemometric process. It can automatically detect hundreds of target compounds in one run and immediately generates a simple customisable report including details such as retention times, quantification ions, peak area values and match coefficients as required.

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