

## CCC2014 Draft Conference Programme

### Day 1 - Wednesday 23rd July, 2014

#### Conference Opening

08:30 09:30 Registration  
09:30 09:35 Professor Julia Buckingham - Vice Chancellor  
09:35 09:50 Svetlana Ignatova - Chair of CCC2014

Welcome to the UK and Brunel University  
14 years of Progress

#### Session 1 Method Development

09:50 10:10 FO1 - Guido Pauli Chicago, IL, USA  
10:10 10:30 FO2 - Shihua Wu Hangzhou, China  
10:30 10:40 SO1 - J.Brent Friesen River Forest, IL, USA  
10:40 10:50 SO2 - Thomas Pogiatzis London, UK  
10:50 11:00 SO3 - Abigail Engelberth West Lafayette, IN , USA

Guess Again: Development of a Countercurrent-based Threshold Assay for Ginkgotoxin Isomers  
Targeted Strategy for Natural products Isolation by Counter-current Chromatography Using a Novel 9×9 Solvent Map  
Qualitative and Quantitative Evaluation of Solvent Systems for Countercurrent Separation.  
Predicting the solubility of pharmaceutical components with the SAFT-γ Mie group contribution approach  
Selection of a Non-Aqueous Solvent System for the Separation of Hemicellulose-Based Sugars

11:00 11:30 **Tea & Coffee, Posters & Exhibition**

#### Session 2 New Solvents

11:30 11:40 SO4 - Alain Berthod Lyon, France  
11:40 11:50 SO5 - Aneta Spórna-Kucab Warszawska, Poland  
11:50 12:00 SO6 - Jizhong Yan Hangzhou, China  
12:00 12:10 SO7 - Mirjana Minceva Erlangen, Germany  
12:10 12:20 SO8 - Leslie Brown Belfast, Northern Ireland  
12:20 12:40 Flash Poster Presentations for Sessions 1&2

Limonene in "green" Arizona Liquid Systems used in CCC  
New solvent systems used in gradient-CCC for separation of polar betalains from Beta vulgaris L.  
Chiral ligand exchange high speed counter-current chromatography: mechanism, application and comparison with conventional liquid chromatography in enantioseparation of ten aromatic α-hydroxyl acids

Potential application of non-conventional aqueous two phase systems in counter-current and centrifugal partition chromatography

Novel applications of Ionic Liquid–Liquid Chromatography / Extraction (ILLC™ / ILLE™) in CCC and CPC

12:40 14:00 **Lunch, Posters & Exhibition**

#### Session 3 Process Development

14:00 14:45 K1 - Jean-Hugues Renault Riems, France  
14:45 15:05 FO3 - Duo-Long Di Lanzhou, China  
15:05 15:25 FO4 - Jane Hubert

Keynote on pH Zone Refining and Ion Exchange (TBC)  
Preparative Separation and Purification of Active Chemical Compounds from Nature Products by HSCCC Coupled with Other Techniques  
Metabolite profiling of natural extracts: A de-replication strategy based on centrifugal partition extraction combined to 13C NMR chemical shift pattern recognition

15:25 15:55 **Tea & Coffee, Posters & Exhibition**

#### Session 4 Scale-up and Continuous Processing

15:55 16:15 FO5 - Philip Wood Slough, UK  
16:15 16:35 FO6 - Fernanda Costa Rio de Janeiro, Brazil  
16:35 16:45 SO9 - Johannes Goll Erlangen, Germany  
16:45 17:00 Flash Poster Presentations for Sessions 3&4

Differences in Stationary Phase Retention between normal phase and reverse phase in J-type centrifuges caused by the influence of coriolis acceleration

Intra- and inter-apparatus scale-up CCC using the isolation of masticadienonic and 3β-masticadienolic acids from Schinus terebinthifolius as example

Model-based Design of Centrifugal Partition Chromatographic Process for Continuous Fractionation of Multicomponent Mixtures

17:00 18:00 **Posters & Exhibition, Cash Bar**

### Day 2 - Thursday 24th July, 2014

#### Industry Day Opening

08:30 09:00 Registration for Industry Day  
09:00 09:15 Sir Richard Sykes - Chancellor

Introduction to Industry Day

#### Session 5 Industry Day

09:15 09:45 K2 - Ian A. Sutherland Uxbridge, UK  
09:45 10:05 FO7 - Gary W. Yanik Palm Beach Gardens, FL , USA  
10:05 10:25 FO8 - David Thornton King of Prussia, PA , USA

Review of Industrial Scale-up of CCC/CPC 2000-2014  
Automating Method Development and Prep Purification in Counter Current Chromatography (CCC)  
Development and Scale-up of Countercurrent Chromatography Process

10:25 10:55 **Tea & Coffee, Posters & Exhibition**

#### Session 6 Industrial Case Studies 1

10:55 11:15 FO9 - Adrian Weisz College Park, MD , USA  
11:15 11:35 FO10 - Paul Hellier Gaillac, France  
11:35 01:55 FO11 - Carl DeAmicis Indianapolis, IN, USA

Preparative Separation of Novel Subsidiary Colors of D&C Red No. 33 (Acid Red 33) Using Spiral Countercurrent Chromatography  
pH Zone Refining in Centrifugal Partition Extraction- A Step Change in Productivity for Liquid-Liquid Chromatography Processes  
Productivity and Performance Comparison of Countercurrent Chromatography and Reverse Phase HPLC at Pilot Scale – A Case Study of Spinosaurs Purification

01:55	12:15 FO12 - Lijuan Chen	Chengdu, China	Honokiol Case Study
12:15	14:00 <b>Lunch, Posters &amp; Exhibition</b>		
<b>Session 7</b>	<b>Industrial Case Studies 2</b>		
14:00	14:20 FO13 - Nathalie Douillet	Stevenage, UK	Breakthrough in Oligonucleotide Purification?
14:20	14:40 FO14 - Peter Hewitson	Uxbridge, UK	A New Dynamic Fractionation Method and Column Design for Size Separation of Bio-polymer Particles
14:40	14:50 SO10 - Jonas Krause	Dortmund, Germany	Enzymatic Reactions in Aqueous/Organic Two Phase Systems using Centrifugal Partition Chromatography as a Reactor
14:50	15:20 Flash Poster Presentations for Industry Day		
15:20	15:50 <b>Tea &amp; Coffee, Posters &amp; Exhibition</b>		

<b>Session 8</b>	<b>ATPS</b>		
15:50	16:10 FO15 - Jon Huddleston	Uxbridge, UK	Purification of Antibody-based Material by Counter-Current Liquid-Liquid Extraction
16:10	16:30 FO16 - Christopher Ladd Effio	Karlsruhe, Germany	Evaluation of Centrifugal Partition Chromatography for the Purification of Virus-like Particles
16:30	17:00 Panel Discussion		
17:00	18:00 <b>Posters &amp; Exhibition, Cash Bar</b>		
19:00	<b>Conference Dinner</b>		

## Day 3 - Friday 25th July, 2014

<b>Session 9</b>	<b>Novel Approaches &amp; Emerging Technology</b>		
09:00	09:45 K3 - Petr Fedotov	Moscow, Russia	Field-Flow Fractionation of Nano- and Microparticles in Rotating Coiled Columns
09:45	10:05 FO17 - Hiroyuki Shiono	Aichi, Japan	Continuous Separation of Mouse Dendritic Cells by the Flow-through Density Gradient Centrifugation
10:05	10:15 SO11 - Masami Shibukawa	Saitama, Japan	Multi-Step pH-Peak-Focusing Countercurrent Chromatography – the Useful Method for Separation and Enrichment of Metal Ions
10:15	10:30 Flash Poster Presentations (x3)		
10:30	11:00 <b>Tea &amp; Coffee, Posters &amp; Exhibition</b>		

<b>Session 10</b>	<b>Applications 1</b>		
11:00	11:45 K4 - Gerold Jerz	Braunschweig, Germany	The Lab-Scale CCC Toolbox for Recovery of Bioactive Natural Products Linked to Mass-spectrometry Profiling Methods
11:45	11:55 SO12 - Xueli Cao	Beijing, China	Application of High-performance CCC as a Preconcentration and Cleanup Method for the Determination of Contaminants in Food Samples
11:55	12:20 Flash Poster Presentations		
12:20	14:00 <b>Lunch, Posters &amp; Exhibition</b>		

<b>Session 11</b>	<b>Instrumentation, Process Modelling &amp; Theory</b>		
14:00	14:20 FO18 - Christof Schwienheer	Dortmund, Germany	Evaluation of CPC Separation Efficiency for Different Types of Chamber Geometries on the basis of Flow Pattern and Separation Experiments
14:20	14:40 FO19 - Alexis Kotland	Saint-Nazaire, France	Modeling pH Zone Refining CPC Separations: A Dynamic Approach
14:40	14:50 SO13 - Kazufusa Shinomiya	Chiba, Japan	Fabrication of Coil Satellite Centrifuge and its Partition Efficiency on Counter-Current Chromatographic Separation of 4-Methylumbelliferyl Sugar Derivatives with Organic-Aqueous Two-phase Solvent Systems
14:50	15:00 SO14 - Eiichi Kitazume	Iwate, Japan	Large-Scale Hydrodynamic CCC based on an Archimedean Screw for Purification of Effluent
15:00	15:10 SO15 - Gerhard Schembecker	Dortmund, Germany	Countercurrent Centrifugal Extraction
15:10	15:25 Flash Poster Presentations		
15:25	15:50 <b>Tea &amp; Coffee, Posters &amp; Exhibition</b>		

<b>Session 12</b>	<b>Applications 2</b>		
15:50	16:10 FO20 - Michael Englert-Vetter-140429	Stuttgart, Germany	Application of pH-zone-refining Countercurrent Chromatography for the Preparative Separation of Fatty Acids from Vegetable Oils
16:10	16:20 SO16 - Nektarios Aligiannis	Athens, Greece	Use of CPC as a Choice Method for the Bio-guided Study of Plant Extracts
16:20	16:30 SO17 - Gilda Leito	Rio de Janeiro, Brazil	Synthesis of New Naphthoxazole Derivatives of Lapachol and their Separation by Countercurrent Chromatography
16:30	17:00 Flash Poster Presentations		
17:00	17:30 <b>Closing Remarks, Award of Prizes &amp; Announcements for Next Meeting</b>		
19:00	Pub Crawl for Stoics		

## Day 4 -Saturday 26th July, 2014

Social Programme