

Sunday October 9, 2016

13:00 Registration

Session Workshop 1

14:00 Preparative HPLC of Peptides and Small Molecules: Phase Screening, Method Optimisation, Process Design

Michael SCHULTE (MERCK KGAA, Darmstadt, Germany)

Jochen STRUBE (CLAUSTHAL UNIVERSITY OF TECHNOLOGY, Clausthal-Zellerfeld, Germany)

Session Workshop 2

From Development to Commercial Scale: DoE, QbD, Regulatory, Process Validation

Alessandro BUTTE

(ETH ZURICH, Zurich, Switzerland)

15:30 Coffee Break

Session Workshop 3

16:00 Multicolumn Processes: From Historical SMB to the Latest Advances in the Purification of Biomolecules

Massimo MORBIDELLI (ETH ZÜRICH, Zürich, Switzerland)

José Paulo MOTA (UNIVERSIDADE NOVA DE LISBOA, Caparica, Portugal)

Arvind RAJENDRAN (UNIVERSITY OF ALBERTA, Edmonton, AB, Canada)

Session Workshop 4

Process Design for Purification of Biomolecules

Alois JUNGBAUER (UNIVERSITY OF NATURAL RESOURCES AND LIFE SCIENCES, Vienna, Austria)

Bernt NILSSON (LUND UNIVERSITY, Lund, Sweden)

17:45 SPICA 2016 Opening Ceremony

18:00 KL01 - Current Innovation Challenges in the Development of non-Mab Biotherapeutics

Georg KLIMA

(BOEHRINGER INGELHEIM, Vienna, Austria)

18:45 Welcome Reception

20:00 End of the Day

Monday October 10, 2016

08:00 Registration

Session 1

Session Chair

Bernt NILSSON
(LUND UNIVERSITY, Lund, Sweden)

09:00 KL02 - What Can We Learn from Art in the Better Design of Production Equipment for Biopharmaceuticals?

Martin HOFMANN
(BIOTECHFLOW, Stroud, Glos, United Kingdom)

09:40 OC01 - Viscous Fingering Dynamics in Preparative Liquid Chromatography

Michel MARTIN
(ECOLE SUPÉRIEURE DE PHYSIQUE ET CHIMIE/CNRS/PMMH, Paris, France)

10:00 OC02 - Computational Fluid Dynamics Study of Viscous Fingering in Supercritical Fluid Chromatography

Arvind RAJENDRAN
(UNIVERSITY OF ALBERTA, Edmonton, AB, Canada)

10:20 Coffee Break & Exhibition

Session 2

Session Chair

Jochen STRUBE
(CLAUSTHAL UNIVERSITY OF TECHNOLOGY, Clausthal-Zellerfeld, Germany)

10:50 OC03 - Unified Design of Chromatographic Separation Processes

Tuomo SAINIO
(LAPPEENRANTA UNIVERSITY OF TECHNOLOGY, Lappeenranta, Finland)

11:10 OC04 - Application of Expanded Bed to the Production of Industrial Enzymes

Esteban FREYDELL
(DSM, Delft, The Netherlands)

11:30 OC05 - Some Insights in Centrifugal Partition Chromatography Engineering - Application to Alkaloids Separation at Production Scale

Luc MARCHAL
(UNIVERSITÉ DE NANTES, Saint Nazaire, France)

11:50 OC06 - Simultaneous Optimization of Chromatographic Process Configuration and Operating Conditions

Johannes SCHMÖLDER
(FRIEDRICH-ALEXANDER-UNIVERSITÄT ERLANGEN-NÜRNBERG, Erlangen, Germany)

12:10 Lunch Break & Exhibition

12:20 Vendor Seminars by Agilent Technologies, Daiso Fine Chem & Rotachrom Technologiai (12:20-13:20)

Session 3

Session Chair

José Paulo MOTA
(UNIVERSIDADE NOVA DE LISBOA, Caparica, Portugal)

13:30 KL03 - Design and Control of Continuous Downstream Processing for Cost Efficient Manufacturing of Biopharmaceuticals

Oliver KALTENBRUNNER
(AMGEN INC., Thousand Oaks, United States)

14:10 OC07 - Investigation and Development of Preparative Recycling Size Exclusion Chromatography

Kathleen MUELLER
(FRIEDRICH-ALEXANDER UNIVERSITÄT ERLANGEN-NÜRNBERG, Erlangen, Germany)

14:30 OC08 - Modelling Scale-Up of Preparative Chromatography Columns Taking into Account Extra Column Effects and Variations of Packing Quality

Susanne SCHWEIGER
(AUSTRIAN CENTRE OF INDUSTRIAL BIOTECHNOLOGY, Vienna, Austria)

14:50 OC09 - Scalability of Mechanistic Models for Ion Exchange Chromatography under Highly Overloaded Conditions

Thiemo HUUK
(KARLSRUHE INSTITUTE OF TECHNOLOGY (KIT), GOSILICO, Karlsruhe, Germany)

15:10 Coffee Break & Exhibition

Session 4

Session Chair

Dorota ANTOS (RZESZOW UNIVERSITY OF TECHNOLOGY, Rzeszow, Poland)

15:40 KL04 - Continuous Purification Platforms for Viral Vectors Based on Multicolumn Simulated Countercurrent Chromatography

José Paulo MOTA
(UNIVERSIDADE NOVA DE LISBOA, Caparica, Portugal)

16:20 OC10 - When Scaling-Up Chromatography is not Trivial

Roger-Marc NICOUUD
(YPSO-FACTO, Nancy, France)

16:40 OC11 - Development of a Continuous Downstream Cascade for the End-to-End Integrated Manufacture of Monoclonal Antibodies

Fabian STEINEBACH
(ETH ZÜRICH, Zurich, Switzerland)

17:00 OC12 - Continuous Integrated Antibody Digestion and Purification

Nicole ULMER
(ETH ZURICH, Zurich, Switzerland)

17:20 Poster Session 1 (even numbers) & Beer Party

Programme

18:20 End of the Day

Tuesday October 11, 2016

Session 5

Session Chair

Massimo MORBIDELLI
(ETH ZÜRICH, Zürich, Switzerland)

08:30 KL05 - Understanding Protein Unfolding and Aggregation in Cation Exchange and Protein A Chromatography Columns

Giorgio CARTA
(UNIVERSITY OF VIRGINIA, Charlottesville, United States)

09:10 OC13 - Preparative Separation and Characterization of Charge Variants of Several Blockbuster Antibody Therapeutics

Nico LINGG
(UNIVERSITY OF NATURAL RESOURCES AND LIFE SCIENCES, VIENNA, Vienna, Austria)

09:30 OC14 - Polyvalent Buffers in Ion Exchange Chromatography Using Salt Tolerant Resins

Egbert MÜLLER
(TOSOH BIOSCIENCE GMBH, Darmstadt, Germany)

09:50 OC15 - Effect of Isotherm Nonlinearity on the Retention Behaviour of Proteins in Hydrophobic Interaction and Multimodal Chromatography

Dorota ANTOS
(RZESZOW UNIVERSITY OF TECHNOLOGY, Rzeszow, Poland)

10:10 OC16 - SMB Separation of Peptides

Joachim KINKEL
(GEORG-SIMON-OHM UNIVERSITY OF APPLIED SCIENCES, Nuernberg, Germany)

10:30 Coffee Break & Exhibition

Session 6

Session Chair

Joachim KINKEL
(GEORG-SIMON-OHM UNIVERSITY OF APPLIED SCIENCES, Nuernberg, Germany)

11:00 OC17 - General Gradients for Preparative Protein Chromatography

Bernt NILSSON
(LUND UNIVERSITY, Lund, Sweden)

11:20 OC18 - PAT for Preparative Chromatography of Proteins: Real-Time Monitoring of a Capture and Polishing Step

Matthias RÜDT
(KARLSRUHE INSTITUTE OF TECHNOLOGY, Karlsruhe, Germany)

11:40 OC19 - Pore Diffusion Coefficients of Proteins in Multicomponent Mixtures

Alexander MATLSCHWEIGER
(BOKU VIENNA, Vienna, Austria)

12:00 OC20 - Improving Washing Strategies of Human Mesenchymal Stem Cells Using Negative Mode Expanded Bed Chromatography

Programme

Cristina PEIXOTO
(IBET, Oeiras, Portugal)

12:20 Lunch Break sponsored by AMPAC Fine Chemicals & Exhibition

12:30 Vendor Seminars by AKZO Nobel/Kromasil & Chiral Technologies Europe (12:30-13:30)

13:40 Poster Session 2 (odd numbers)

Session 7

Session Chair

Michael SCHULTE
(MERCK KGAA, Darmstadt, Germany)

14:40 KL06 - Strategies for Improving the Productivity of Chromatography or Proteins

Shuichi YAMAMOTO
(YAMAGUCHI UNIVERSITY, Ube, Japan)

15:20 OC21 - Optimization of Primary Recovery and Downstream Processing for Protein Purification from E. Coli Homogenates

Rainer HAHN
(BOKU VIENNA, Vienna, Austria)

15:40 OC22- Influence of Mixed Electrolytes and PH on HIC-Adsorption and Partial Molar Volume of Proteins

Eva HACKEMANN
(TU KAISERSLAUTERN, Kaiserslautern, Germany)

16:00 OC23 - Negative and Positive Multi-Column Chromatographic Strategies for the Purification of Enveloped Virus-Like Particles

Ricardo SILVA
(IBET - INSTITUTO DE BIOLOGIA EXPERIMENTAL E TECNOLÓGICA, Oeiras, Portugal)

16:20 Coffee Break & Exhibition

Session 8

Session Chair

Andreas SEIDEL-MORGENSTERN
(MAX PLANCK INSTITUTE FOR DYNAMICS OF COMPLEX TECHNICAL SYSTEMS, Magdeburg, Germany)

16:50 OC24 - Model Predictive Control of 4-Zone Simulated Moving Bed Chromatography for the Separation of Bicalutamide Enantiomers

Ju Weon LEE
(MAX-PLANCK-INSTITUTE FOR DYNAMICS OF COMPLEX TECHNICAL SYSTEMS, Magdeburg, Germany)

17:10 OC25 - Concurrent Modeling and Design Approach for Development of Multi-Component Simulated Moving Bed Processes

Yoshiaki KAWAJIRI
(GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, United States)

17:30 OC26 - A Method for Designing Flow-Through Chromatography Processes

Programme

Sumiko HASEGAWA
(YAMAGUCHI UNIVERSITY, Ube, Japan)

17:50 OC27 - Simulated Periodic Counter-Current Chromatography (SPCCC) - A Scale-Down Model for Multicolumn Continuous Chromatography Process Development

Gang WANG
(KARLSRUHE INSTITUTE OF TECHNOLOGY (KIT), Karlsruhe, Germany)

18:10 OC28 - Integrated Counter Current Chromatography (iCCC) - A Platform Alternative for a Protein a Free mAB and SCFV Downstream

Fabian MESTMÄCKER
(TU-CLAUSTHAL, Clausthal-Zellerfeld, Germany)

18:30 End of the Day

20:00 Symposium Banquet

Wednesday October 12, 2016

Session 9

08:30 Session Chair

Tuomo SAINIO
(LAPPEENRANTA UNIVERSITY OF TECHNOLOGY, Lappeenranta, Finland)

08:30 OC29 - Experimental Analysis and Theoretical Description of Multiphase Flow in the Context of Liquid Chromatography

Franziska ORTNER
(ETH ZURICH, Zurich, Switzerland)

08:50 OC30 - Ionic Liquid-Liquid Chromatography (ILLC)

Martyn EARLE
(QUILL RESEARCH CENTRE, Belfast, United Kingdom)

09:10 OC31 - Ion Exclusion Chromatography: Model Development and Experimental Results

Gabriele LODI
(POLITECNICO DI MILANO, Casteggio, Italy)

09:30 OC32 - Tuning of Peak Deformations, Due to Co-Solvent Adsorption, in Preparative Supercritical Fluid Chromatography

Torgny FORNSTEDT
(KARLSTAD UNIVERSITY, Karlstad, Sweden)

09:50 Poster Prizes

10:10 Coffee Break & Exhibition

Session 10

Session Chair

Eric VALERY
(NOVASEP, Pompey, France)

10:40 KL07 - The Effect of Column Heterogeneity and Column Structure on the Accuracy of Overloading Studies

Attila FELINGER
(UNIVERSITY OF PECS, Pécs, Hungary)

11:20 OC33 - Separation of a Quaternary Chiral Mixture Using Different Simulated Moving Bed Strategies

António E. RIBEIRO
(POLYTECHNIC INSTITUTE OF BRAGANÇA, Bragança, Portugal)

11:40 OC34 - Model-Based Design of Preparative Binary and Ternary Separations with Liquid-Liquid Chromatography

Raena MORLEY
(TECHNICAL UNIVERSITY OF MUNICH, Freising, Germany)

12:00 OC35 - Applying the Ideal Adsorbed Solution Theory to Describe Elution Profiles in Case of Complex Single Component Isotherms

Andreas SEIDEL-MORGENSTERN
(MAX PLANCK INSTITUTE FOR DYNAMICS OF COMPLEX TECHNICAL SYSTEMS, Magdeburg, Germany)

Programme

- 12:20** **OC36 - Liquid-Liquid Chromatographic Separation of Natural Compounds Using Biphasic Systems Containing Deep Eutectic Solvents: Experimental and Computational Studies**
Mirjana MINCEVA
(TECHNICAL UNIVERSITY OF MUNICH, Freising, Germany)
- 12:40** **Closing Remarks**