

Sunday September 30, 2012

13:00 Registration

Session Workshop 1

14:00 Preparative HPLC : Phase Screening, Method Optimization, Process Development. Troubleshooting a Preparative Chromatographic Device

Dr Michael SCHULTE
(MERCK, Darmstadt, Germany)

Session Workshop 2

14:00 From Development to Commercial Scale: Rules to Scale up, QbD, Regulatory, Process Validation

Dr Alessandro BUTTE
(ETH ZURICH, Zurich, Switzerland)

Session Workshop 3

14:00 Multicolumn Processes: from Historical SMB to the Latest Advances in the Purification of Biomolecules

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

15:30 Coffee Break

Session Workshop 4

16:00 Solving a Purification Process: Choice of the Appropriate Process (Batch vs Continuous, Low Pressure vs High Pressure, Liquid vs SFC, Centrifugal Partition Chromatography vs Countercurrent Chromatography)

Dr Eric VALERY
(NOVASEP CDMO, AN AXPLORA COMPANY, Pompey, France)

Session Workshop 5

16:00 Process Design for Purification of Small Molecules

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

Session Workshop 6

16:00 Process Design for Purification of Biomolecules

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

18:00 Welcome reception

Monday October 1, 2012

09:00 **Welcome**

Session 1: Quality by Design

Session Chair

Prof. Massimo MORBIDELLI
(ETH ZÜRICH, Thessaloniki, Greece)

09:20 **Quality by Design in API Purifications. Making the Right Things**

Dr Alessandro BUTTE
(ETH ZURICH, Zurich, Switzerland)

10:00 **Quality by Design with Rigorous Process Modeling as Platform Technology of the Future**

Mr Christoph HELLING
(CLAUSTHAL UNIVERSITY OF TECHNOLOGY, Clausthal-Zellerfeld, Germany)

10:20 **A Model Based Approach to Reducing the Analytical Burden of High Throughput Screening**

Dr Marcus DEGERMAN
(LUND UNIVERSITY, Lund, Sweden)

10:40 **Characterization of Adsorption in SFC: an Evaluation of Methods Used in LC**

Prof. Torgny FORNSTEDT
(KARLSTAD UNIVERSITY, Karlstad, Sweden)

11:00 **Coffee Break**

Session 2: Multicolumn Chromatography

Session Chair

Dr Eric FRANCOTTE
(NOVARTIS, Nuglar, Switzerland)

11:30 **Experimental Study on a Binary Chromatographic System Subject to a Mixed Competitive-Cooperative Adsorption Isotherm**

Mr Simon JERMANN
(ETH ZÜRICH, Zurich, Switzerland)

11:50 **Relay SMB: A Simple and Efficient Way of Implementing Simulated Moving-Bed Chromatography**

Prof. José Paulo MOTA
(REQUIMTE/CQFB, FFCT, Caparica, Portugal)

12:10 **Model Mismatch Resolution and Optimization for Simulated Moving Bed and Continuous Chromatographic Processes**

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

12:30 **Lunch, Vendor Seminar (Novasep, Waters, Phenomenex, Knauer)**

Session 3: Innovative Production Technologies

Session Chair

Prof. Andreas SEIDEL-MORGENSTERN (MAX PLANCK INSTITUTE FOR DYNAMICS OF COMPLEX TECHNICAL SYSTEMS, Magdeburg, Germany)
Prof. Tuomo SAINIO (LAPPEENRANTA UNIVERSITY OF TECHNOLOGY, Lappeenranta, Finland)

14:00 Biological Production of Peptides

Prof. Susanna LEONG
(NANYANG TECHNOLOGICAL UNIVERSITY, Singapore, Singapore)

14:40 Nanofiltration of Peptides in Acetonitrile/Water Mixtures: Process Development

Ms Patrizia MARCHETTI
(LONZA, Visp, Switzerland)

15:00 Efficient API Purification or How Combining OSN and Chromatography Increases Your Process Yields!

Dr Muriel NASSO
(EVONIK, Wembley, United Kingdom)

15:20 Separation of Bionanoparticles and Biological Superstructures

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

15:40 Coffee Break

Session 4: Fundamentals

Session Chair

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

16:10 Molecular Engineering of Multiple Weak Interactions for High Selectivity Bioseparations

Prof. Steven CRAMER M
(RENSELAER POLYTECHNIC INSTITUTE, Troy, United States)

16:50 Modeling of Protein Aggregation in Preparative Chromatography

Prof. Bernt NILSSON
(LUND UNIVERSITY, Lund, Sweden)

17:10 Modeling Protein Adsorption Equilibria on Ion-Exchange Resins

Dr Bertrand GUELAT
(NOVARTIS PHARMA AG, Basel, Switzerland)

17:30 Distributed Pore Surface Model

Ing Niklas BORG
(LUND UNIVERSITY, Lund, Sweden)

17:50 Study of Hydrodynamics in Chromatographic Columns by Computed X-Ray Tomography and its Evaluation by CFD Simulations

Ms Irma SCHMIDT
(UNIVERSITY ERLANGEN-NUREMBERG, Erlangen, Germany)

18:10 Poster Session #1

Tuesday October 2, 2012

07:00 Young Scientist Breakfast

Session 5: Green Technology - Complex Continuous Resolution

Session Chair

Prof. Arvind RAJENDRAN (UNIVERSITY OF ALBERTA, Edmonton, AB, Canada)
Dr Svetlana IGNATOVA (BRUNEL UNIVERSITY, Uxbridge, United Kingdom)

08:50 **Preparative Chiral Chromatography: What Can Go Wrong and How to Solve it**

Dr Pilar FRANCO
(CHIRAL TECHNOLOGIES, INC, Illkirch, France)

09:10 **Supercritical Fluids as the Desorbent for Simulated Moving Bed? Application to the Concentration of Triterpenoids from Taiwanofugus Camphorate**

Ms Liang RU CHIEN
(I SHOU UNIVERSITY, Kaohsiung City, Taiwan)

09:30 **Optimization of Simulated Moving Bed Processes for Multicomponent Chiral Separations**

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

09:50 **A Non-Conventional Application of Simulated Moving Bed Technology: Purification of a Complex Mixture**

Ms Kiara KOCHENDOERFER
(UNIVERSITY ERLANGEN-NUREMBERG, Ludwigshafen, Germany)

10:10 **Coffee Break**

Session 6: Partitioning and Extraction

Session Chair

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

10:40 **Liquid-Liquid Extraction of Biomolecules - Process Development and Integration into Downstream Processing**

Mr Jan Kristof EGGERSGLUESS
(CLAUSTHAL UNIVERSITY OF TECHNOLOGY, Clausthal, Germany)

11:00 **Design Of Tailor-Made Stationary And Mobile Phase In Liquid-Liquid Chromatography**

Prof. Mirjana MINCEVA
(UNIVERSITÄT ERLANGEN, Freising, Germany)

11:20 **Towards Optimally Sized Centrifugal Partition Chromatography Columns - Process Design Methodology and Applications**

Mr Sebastien CHOLLET
(GEPEA LABORATORY, Saint-Nazaire, France)

11:40 **Scalable Technology for the Extraction of Pharmaceuticals (STEP): Progress on Developing Versatile Small Footprint Technology for Continuous Processing at the Lab Scale up to 1 Kg/Day**

Prof. Ian SUTHERLAND (BRUNEL INSTITUTE FOR BIOENGINEERING, Uxbridge, United Kingdom)
Dr Svetlana IGNATOVA (BRUNEL UNIVERSITY, Uxbridge, United Kingdom)

12:00 Lunch, Vendor Seminar (Kromasil, Merck Millipore, PIC Solution and Chiral Technologies)

Session 7: Process Integration 1 - Isomeric Separation

Session Chair

Dr Shalini ANDERSSON (ASTRAZENECA, Mölndal, Sweden)
Prof. Mirjana MINCEVA (UNIVERSITÄT ERLANGEN, Freising, Germany)

13:30 Implementation of a Continuous Chromatography Step in The Synthesis of an API – Combining Chemistry and Chromatography to Achieve Better Economics

Dr Olivier DAPREMONT
(SK PHARMTECO, Rancho Cordova, United States)

14:10 Continuous Synthesis and Purification Through Direct Combination of a Flow Reactor and Simulated Moving Bed Chromatography

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

14:30 Integrated Chromatographic Processes for the Production of Pure Enantiomers

Prof. Malte KASPEREIT
(FRIEDRICH-ALEXANDER UNIVERSITY ERLANGEN-NÜRNBERG, Erlangen, Germany)

14:50 From Racemate to Single Enantiomer with 100% Yield by Process Integration of SMB and Enzymatic Racemization

Mr Markus FUEREDER
(ETH ZURICH, Basel, Switzerland)

15:10 Coffee Break sponsored by AMPAC Fine Chemicals

Session 8: Process Integration 2 - Food and Products

Session Chair

Dr Eric VALERY (NOVASEP CDMO, AN AXPLORA COMPANY, Pompey, France)
Prof. Malte KASPEREIT (FRIEDRICH-ALEXANDER UNIVERSITY ERLANGEN-NÜRNBERG, Erlangen, Germany)

15:40 New Approaches to Food Fractionation by Chromatography: Adapting High-Cost Techniques to the Production of Moderate-Value Products

Prof. Conan FEE
(UNIVERSITY OF CANTERBURY, Christchurch, New Zealand)

16:20 A Reaction-Separation Integrated Process for the High-Yield Synthesis of Rare Sugars

Ms Nina WAGNER
(ETH ZURICH D-BSSE, Basel, Switzerland)

16:40 Chromatographic Process Options for Reduced Purities

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

17:00 Model Based Design and Integration of Crystallization Processes of Natural Products in Down Stream Processing

Mr Iraj KOUDOUS
(INSITUT FÜR THERMISCHE VERFAHRENS- UND PROZESSTECHNIK, Clausthal-Zellerfeld, Germany)

Programme

17:20 Special Symposium - Rountable Discussion: Process Integration and Intensification

Dr Olivier DAPREMONT (SK PHARMTECO, Rancho Cordova, United States)
Dr Eric VALERY (NOVASEP CDMO, AN AXPLORA COMPANY, Pompey, France)
Dr Shalini ANDERSSON (ASTRAZENECA, Mölndal, Sweden)

18:00 Poster Session 2

20:00 Gala Dinner

Wednesday October 3, 2012

Session 9: SMB and Novel Chromatography Approaches

Session Chair

Prof. José Paulo MOTA
(REQUIMTE/CQFB, FFCT, Caparica, Portugal)

08:50 Enabling High Purities and Yields in Therapeutic Peptide Purification by Using Continuous Chromatography (MCSGP)

Dr Thomas MÜLLER-SPÄTH
(CHROMACON AG, Zurich, Switzerland)

09:10 Continuous Purification of Single-Chain Antibody Fragments by Simulated Moving Bed Chromatography

Mr Carlos Andres MARTINEZ CRISTANCHO
(MAX-PLANCK-INSTITUT MAGDEBURG, Magdeburg, Germany)

09:30 Integration of Hydrophobic Interaction- and Ion Exchange Chromatography

Mr Tim WELLSANDT
(INSITUT FÜR THERMISCHE VERFAHRENS- UND PROZESSTECHNIK, Clausthal-Zellerfeld, Germany)

09:50 Purification of Proteins from Human Blood Plasma by Multicolumn Solvent Gradient Purification

Mr Daniel BAUR
(ETH ZÜRICH, Zurich, Switzerland)

10:10 Poster Prize

10:30 Coffee Break

Session 10: Affinity Ligands and Biopharmaceuticals

Session Chair

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

11:00 Molecular Modeling of the Affinity Chromatography of Proteins: Status and Perspectives

Prof. Carlo CAVALLOTTI
(POLITECNICO DI MILANO, Milano, Italy)

11:40 Peptidomimetic Affinity Ligands (PALs) - A Powerful Approach to Improving DSP Performance

Dr Matthias PASCHKE
(3B PHARMACEUTICALS GMBH, Berlin, Germany)

12:00 New Trend in Material Development for Peptide Purification

Dr Nicola FORRER
(ZEOCHEM, Uetikon am See, Switzerland)

12:20 A New Disposable Technology for Chromatographic Purification of Biopharmaceuticals

Dr David YAVORSKY
(MERCK-MILLIPORE, Bedford, United States)

12:40 Shifting the Scale-up Limits of Disposable Downstream Processing

Programme

Mr. Marcel RAEDTS
(PROXCYS BV, Nieuw Amsterdam, The Netherlands)

13:00 **Closing Remarks**