

## PROGRAMME

## PROGRAMME

Monday, September 22, 2008

8:50 Introduction K.K. Unger

## BIOANALYSIS

*Chair: K.K. Unger, University of Mainz/D*

9:00 KEYNOTE LECTURE

**Liquid chromatographic analysis of biopharmaceuticals in biological fluids with MALDI and ESI mass spectrometric detection**

G. Hopfgartner, University of Geneva/CH

9:45 **Cation-exchange chromatography separates two isoforms of a monoclonal anti-Rh(D) (IgG) with significantly different antigen-binding properties**

T. Teo, A. Tscheliessnig, N. Wong, Y.Y. Lee, J. Chusainow, R. Philp, M.M. Lee, Bioprocessing Technology Institute, Singapore/SGP; J. Grzeskowiak, University of Natural Resources and Applied Life Sciences, Vienna/A; A. Choo, Bioprocessing Technology Institute, Singapore/SGP; A. Jungbauer, University of Natural Resources and Applied Life Sciences, Vienna/A

10:10 **Evaluation of IEC-phases for 2D-LC-MS of proteins**

E. Reh, University of Applied Sciences, Bingen/D

10:35 **Multidimensional liquid chromatography for the analysis of complex samples**

E. Machtejevas, Merck KGaA, Darmstadt/D

11:00 **Coffee Break with Exhibition and Poster Presentation**

## FUNDAMENTALS

*Chair: A. Jungbauer, University of Natural Resources and Applied Life Sciences, Vienna/A*11:25 **Binding and retention mechanism of PEGylated and non-PEGylated proteins in electrostatic interaction chromatography**

M. Abe, P. Akbarzadehlaleh, Y. Nishizumi, N. Yoshimoto, S. Yamamoto, Yamaguchi University, Ube/J

11:50 **Surface energetics to assess biomass attachment onto hydrophobic interaction adsorbents in expanded beds**

R.R. Vennapusa, Jacobs University, Bremen/D; C. Tari, Izmir Institute of Technology/TR; R.B. Cabrera, H.M. Fernandez-Lahore, Jacobs University, Bremen/D

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12:15 **Investigation of angiotensin I adsorption behavior in hydrophobic interaction chromatographic systems**

C.A. Nunes, A.C.M. Dias-Cabral, University of Beira Interior, Covilhã/P

12:40 **Micro-scale self interaction chromatography**

K. Deshpande, T. Ahamed, L.A.M. van der Wielen, M. Ottens, J. ter Horst, P. Jansens, Delft University of Technology/NL

13:05 **Lunch Break***Chair: F. Lottspeich, MPI for Biochemistry, Munich/D*14:30 **Fast and accurate estimation of chromatography parameters from measurement data**

E. von Lieres, J. Andersson, Research Centre Juelich GmbH/D; A. Susanto, Bayer Technology Services GmbH, Leverkusen/D; K. Treier, J. Hubbuch, University of Karlsruhe/D

14:55 KEYNOTE LECTURE

**Progress in biomimetic and biospecific separations of biopolymers**

S. Hober, KTH, Stockholm/S

*Chair: E. Müller, Tosoh Bioscience GmbH, Stuttgart/D*15:40 **INTRODUCTION SEPARATION FORUM**16:20- **Coffee Break**18:00 **Poster Discussion and Separation Forum**

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7:30 **Breakfast for Young Scientists**

## MATERIALS

*Chair: R. Ditz, Merck KGaA, Darmstadt/D*9:00 **KEYNOTE LECTURE****Material design for modern process development**

C. Haynes, University of British Columbia, Vancouver/CND

9:45 **Design of novel preparative cation-exchange resins for the downstream processing of monoclonal antibodies**

A. Franke, N. Forrer, ETH Zurich/CH; H. Thomas, ETH Zurich/CH and Merck KGaA, Darmstadt/D; A. Butté, ETH Zurich/CH; M. Jöhnck, M. Schulte, Merck KGaA, Darmstadt/D; M. Morbidelli, ETH Zurich/CH

10:10 **Application of novel affinity-based anion-exchange-type (AIEX) materials and novel peptido-mimetic affinity material (B14) for the purification of monoclonal antibodies (mAb) from cell supernatant**

J. Horak, University of Vienna/A; S. Williams, S. Burton, ProMetic Biosciences Ltd., Cambridge/UK; W. Lindner, University of Vienna/A

10:35 **Adsorption and separation of proteins with smectitic clay minerals**

K. Ralla, R. Riechers, University of Hanover/D; U. Sohling, Süd-Chemie AG, Moosburg/D; C. Kasper, T. Scheper, University of Hanover/D

11:00 **Coffee Break with Exhibition and Poster Presentation***Chair: C. Voß, University of Bielefeld/D*11:25 **Preparative separation of peptide mixture on a column containing a mixed-mode reversed-phase/weak-anion exchange material**

R. Dabre, A. Schwämmle, Merck KGaA, Darmstadt/D; M. Lämmerhofer, W. Lindner, University of Vienna/A

11:50 **Liquid-liquid equilibrium of quaternary aqueous two-phase systems: experiments and modelling**

J.A. Samatou, A.E. Wentink, A. Górak, Dortmund University of Technology/D

12:15 **An alternative process for the purification of therapeutic antibodies comprising aqueous two-phase extraction**

A.M. Azevedo, P.A.J. Rosa, I.F. Ferreira, M.R. Aires-Barros, Instituto Superior Técnico, Lisbon/P

12:40 **Plasmid purification by reverse micellar two-phase systems: development of an extraction step and process integration**

N. Streitner, C. Voß, E. Flaschel, Bielefeld University/D

13:05 **Lunch Break**

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## PEPTIDES

*Chair: R. Bischoff, University of Groningen/NL*14:30 **TANDEM KEYNOTE LECTURE****Improving prediction of peptide retention times in RP-HPLC**

R. Hodges, University of Colorado at Denver and Health Sciences Center, Aurora, CO/USA

**Peptide retention prediction in RP-HPLC: impact on LC-MS and LC-MS/MS analyses in proteomics**

O. Krokhin, Manitoba Centre for Proteomics and System Biology, Winnipeg, Manitoba/CDN

15:30 **The use of de novo designed synthetic peptide mixtures to design new reversed-phase materials with unique selectivities for peptide separations**

C.T. Mant, University of Colorado at Denver and Health Sciences Center, Aurora, CO/USA; T. Farkas, Phenomenex Inc., Torrance, CA/USA; R.S. Hodges, University of Colorado at Denver and Health Sciences Center, Aurora, CO/USA

15:55 **Application of displacement chromatography for the analysis of a membrane proteome**

H. Schlüter, M. Trusch, D. Hildebrand, A. Schulz, Charité, Berlin/D; A. Bertsch, O. Kohlbacher, University of Tübingen/D; A. Böhmick, S. Bachmann, Charité, Berlin/D

16:20 **Coffee Break with Exhibition and Poster Presentation**16:40 **Electrochemical oxidation and cleavage of peptides and proteins**

H. Permentier, J. Roeser, A. Bruins, R. Bischoff, University of Groningen/NL

17:05 **From degradomes towards disease-associated proteases**

M. Trusch, H. Schlüter, Charité, Berlin/D; V. Frochoux, M. Linscheid, Humboldt Universität zu Berlin/D; O. Schulz-Trieglaff, R. Knut, Freie Universität Berlin/D; E. Machtejevas, Merck KGaA, Darmstadt/D; K. Unger, University of Mainz/D

17:30- **KEYNOTE LECTURE**18:15 **Selectivity and efficiency in biopolymer separations**

Th. Hankemeier, Leiden University/NL

19:30- **Conference Dinner** (see page 23)  
23:30

## PROGRAMME

Wednesday, September 24, 2008

## BIOPROCESSING

*Chair: J. Hubbuch, Research Center Juelich GmbH/D*

## 9:00 KEYNOTE LECTURE

**Alternative purification process applicable for monoclonals**A. Eon-Duval, Laboratoires Serono S.A.,  
Fenil-sur-Corsier/CH9:45 **Manufacturing of single-chain Fv fragments (scFv): influence of domain arrangement on refolding characteristics**M. Eiberle, H. Hohenblum, Boehringer Ingelheim Austria, Vienna/A; A. Jungbauer, University of Natural Resources and Applied Life Sciences, Vienna/A; M. Berkemeyer, Boehringer Ingelheim Austria, Vienna/A10:10 **Use of 2-D DIGE to facilitate downstream process development of therapeutic proteins**J. Grzeskowiak, University of Natural Resources and Applied Life Sciences, Vienna/A; A. Tscheliessnig, P.C. Toh, J. Chusainow, Y.Y. Lee, N. Wong, Bioprocessing Technology Institute, Singapore/SGP; A. Jungbauer, University of Natural Resources and Applied Life Sciences, Vienna/A and Bioprocessing Technology Institute, Singapore/SGP10:35 **Integrated column refolding and purification of a complex biopharmaceutical protein**Y. Chen, S. Leong, Nanyang Technological University, Singapore/SGP11:00 **Coffee Break with Poster Presentation***Chair: M. Hearn, Monash University, Victoria/AUS*11:25 **Design of hydrophobic interaction chromatography**C. Borrmann, Clausthal University of Technology/D; S. Sommerfeld, M. Lohrmann, Bayer Technology Services GmbH, Leverkusen/D; J. Strube, Clausthal University of Technology/D

## 11:50 KEYNOTE LECTURE

**Miniaturization and mass spectrometry**

Th. Laurell, Lund University/S

12:35 **Closing Remarks, Poster Awards**12:50 **End of the Symposium**