

Monday, October 24, 2011

7:45 AM **Registration Opens**

8:45 AM **Opening Remarks** - Joe DeStefano, Chairman, ISPPP2011

Session 1 Column Technologies. Mark Schure, Chair

9:00 AM

L1. Monoliths Modified with Nanoparticles for Separation of Biomacromolecules
Frantisek Svec, The Molecular Foundry, E.O. Lawrence Berkeley National
Laboratory, Berkeley, CA USA

9:30 AM

L2. New Core-Shell Packing Materials for High Performance HILIC Separations of Peptides and Glycopeptides
Barry Boyes, Stephanie Schuster, William Johnson, Joseph J. DeStefano and Joseph
J. Kirkland Advanced Materials Technology, Inc., Wilmington, DE USA

9:50 AM

L3. New Insights on Separation Characteristics of Proteins and Peptides on Core-Shell Based HPLC Columns
Michael McGinley, Jeff Layne, and Deborah Jarrett, Phenomenex, Inc., Torrance, CA
USA

10:10 AM

L4. Surface Energetics of Protein Adsorption onto Ceramic Hydroxyapatite
Aasim Muhammed, Noor Shad Bibi, Rami Reddy Vennapusa, and Marcelo
Fernandez-Lahore, School of Engineering and Science, Jacobs University Bremen,
Bremen, Germany

10:30 AM **Coffe Break in Exhibits Area**

Session 2 NIH Panel Discussion. D. Sheeley, Chair

11:15 AM

NIH Programs Relevant to Biochemical Separation Science

Panelists:

Douglas Sheeley, NCRR

Charles Edmonds, NIGMS

Pothur Srinivas, NHLBI

Richard Conroy, NIBIB

Salvatore Sechi, NIDDK

Sudhir Srivastava, NCI

12:15 PM

Break (Lunch on own or at Vendor Seminars)

1:30 PM

Monday Posters and Exhibits

Session 3

Peptides. F. Svec, Chair

- 3:00 PM **L5. Advanced in Mixed-Mode Hydrophilic Interaction/ Cation-Exchange Chromatography of Peptides and Proteins**
Robert Hodges and Colin Mant Dept of Biochemistry and Molecular Genetics, University of Colorado , School of Medicine, Aurora, CO USA
- 3:20 PM **L6. Hydrophobic Contribution of Amino Acids into RP-HPLC Peptide Retention: Sequence-Specific Retention Prediction Based on Proteomics Measurements**
Oleg Krokhin and Vic Spicer, Department of Internal Medicine, University of Manitoba, Winnipeg, Manitoba, Canada
- 3:40 PM **L7. Affecting Reversed-Phase Chromatography of Peptides Under MS-Compatible Conditions**
Hillel Brandes, David Bell and Craig Aurand, Sigma-Aldrich/Supelco, Bellefonte, PA USA
- Session 4 **Monoclonal Antibodies. R. Hodges, Chair**
- 4:00 PM **L8. A New Approach for mAb Aggregate Characterization Using HI- and SE-HPLC in Combination With FL and MALS Detection**
Werner Conze, Judith Vajda, and Egbert Mueller, Tosoh Bioscience GmbH, Stuttgart, Germany
- 4:20 PM **L9. Antibody Solution Kit for Separation and Characterization of Monoclonal Antibodies**
Haiying Chen, Xueying Huang, Helen Gu, and Katherine McGlauglin, Sepax, Inc., Newark, DE USA
- 4:40 PM **Adjourn**

Tuesday, October 25, 2011

Session 5 **LC/MS. R. Orlando, Chair**

- 9:00 AM **L10. Developing Next Generation IMS-MS Techniques for Analyzing Biological Mixtures**
David Clemmer, Department of Chemistry, Indiana University, Bloomington, IN USA
- 9:20 AM **L11. The Chicken as an Experimental Model for Biomarker Discovery in Epithelial Ovarian Cancer**

Adam Hawkrige, Department of Chemistry, North Carolina State University,
Raleigh, NC USA

9:40 AM **L12. Accurate, High-Throughput Identification of Stable Protein Complexes Using a Tagless Strategy**

Ming Dong, Haichuan Liu, John-Marc Chandonia, Maxim Shatsky, Steven E. Brenner, Lee Yang, Terry C. Hazen, Jil T. Geller, Megan Choi, Evelin D. Szakal, Jian Jin, H. Ewa Witkowska, Adam P. Arkin, and Mark D. Biggin, Genome Science Department, Lawrence Berkeley National Laboratory, Berkeley, CA USA

10:00 AM **Coffe Break in Exhibits Area**

Session 6 **Glycomics. A. Jungbauer, Chair**

10:45 AM

L14. An Integrated Glycomics Approach Towards an Assay for Cancer Biomarkers

David Lubman, Yashu Liu, Jintang He, and Jorge Marrero, Department of Surgery, University of Michigan, Ann Arbor, MI USA

11:05 AM **L15. Making Glycomics Quantitative**

Ron Orlando, Shujuan Tao, and Jesse Hines, Department of Biochemistry & Molecular Biology, and Chemistry, Complex Carbohydrate Research Center, University of Georgia, Athens, GA USA

11:25 AM **L16. Characterization of the Unusual Glycosylation of Maize-Derived Recombinant Bovine Trypsin**

Kevin Ray and Pegah Jalili, Sigma-Aldrich Co., St. Louis, MO USA

Session 7 **Viruses. D. Lubman, Chair**

11:45 AM **L17. Separation of Virus and Virus-like Particles by Chromatography**

Alois Jungbauer, Department of Biotechnology, BOKU, University of Natural Resources and Applied Life Sciences, Vienna, Austria

12:05 PM **L18. Purification of Cell Culture-Derived Influenza Virus using Continuous Simulated Moving Bed Chromatography**

Tina Krober*, Michael W. Wolff**, Boris Hundt (IDT Biologika GmbH, Dessau-Rosslau/Germany), Udo Reichl**, and Andreas Seidel-Morgenstern**

*Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg, Germany

**Max Planck Institute, Magdeburg and Institute of Process Engineering, Otto-von-Guericke-University, Magdeburg, Germany

12:25 PM **Break (Lunch on own or at Vendor Seminars)**

1:30 PM **Tuesday Posters and Exhibits**

Session 8 **PEGylation.** B. Boyes, Chair

3:00 PM **L19. Thermodynamics of Adsorption of PEGylated Lysozymes on Hydrophobic Chromatographic Resins**

Albert Werner, Tim Blaschke, and Hans Hasse, Laboratory of Engineering Thermodynamics (LTD), University of Kaiserslautern, Kaiserslautern, Germany

3:20 PM **L20. Assessing Solution Stability of PEGylated Proteins**

Marcel Ottens, Feng Jin, and Kedar S. Deshpande, Department of Biotechnology, Delft University of Technology, Delft, The Netherlands

Session 9 **Protein Separations.** B. Boyes, Chair

3:40 PM **L21. Protein Adsorption and Transport in Macroporous and Polymer Grafted Ion Exchangers - a Side-by-Side Comparison**

E.X. Perez-Almodovar and G. Carta, Department of Chemical Engineering, University of Virginia, Charlottesville, Virginia USA

4:00 PM **L22. Ion Exchange Analysis of Proteins with Automated pH Gradients**

Tom Wheat, Daniel Root, and Patricia McConville, Waters Corporation, Milford, MA USA

4:20 PM **L23. pISep Controlled pH Gradient Chromatography Can Outperform Isoelectric Focusing for Complex Protein Separations**

Allen Hirsh and Latchezar Tsonev, Cryobiophysics, Inc., Silver Spring, MD USA

4:40 PM **L24. Sample Displacement Chromatography – An Alternative Way for Purification of High and Low Abundance Plasma Proteins**

Djuro Josic, Egbert Müller, and Martina Srajer Gajdosik, Proteomics Core, COBRE Center for Cancer Research Development, Rhode Island Hospital and Brown University, Providence, RI USA

5:00 PM **ADJOURN**

Wednesday, October 26, 2011

Session 10 **Protein Purification,** J. DeStefano, Chair

- 9:00 AM **L25. Use of Mixed Mode Ligand Libraries to Achieve High Resolution Chromatographic Purification and Analysis of Recombinant Proteins**
Milton Hearn, Centre for Green Chemistry, Monash University, Clayton, Australia
- 9:20 AM **L26. Isolation and Characterization of Therapeutic Antibody Charge Variants Using Ion Exchange Displacement Chromatography**
Taylor Zang, Justin Bourret, Tony Cano, and Yung-Hsiang Kao, Genentech, Inc., South San Francisco, CA USA
- 9:40 AM **L27. HIC With a Combination of Chaotropic and Kosmotropic Salts for mAb Aggregate Purification**
Judith Vadia, Christine Gally, and Egbert Müller, Tosoh Bioscience GmbH, Stuttgart, Germany
- 10:00 AM **L28. Probing the Mechanisms of Protein Retention and Transport in Polymer-Derivatized Ion-Exchange Media**
Brian Bowes, Harun Koku, Steven J. Traylor, James Angelo, and Abraham M. Lenhoff
- 10:20 AM **Coffee Break**
- Session 11 **Multidimensional Separations, A. Lenhoff, Chair**
- 11:00 AM **L29. Chromatographic Dimensionality: A Separations Metric with Wide-ranging Implications for Bioseparations**
Mark Schure, The Dow Chemical Company, Springhouse, PA USA
- 11:20 AM **L30. Quantitation of Intact Proteins in Complex Biological Matrices by Multi-Dimensional Liquid Chromatography**
Samir Julka, Jason Folkenroth, and Scott A. Young, The Dow Chemical Company, Midland, MI USA
- 11:40 AM **Lunch on own**
- Session 12 **Bio-Separations. M. Hearn, Chair**
- 1:00 PM **L31. Antibody Purification Via Affinity Chromatography That Utilizes the Nucleotide Binding Site**
Nathan Alves, Michael W. Handlogten, Jonathan D. Ashley, Samuel Stimple, Tanyel Kiziltepe, and Başar Bilgiçer, University of Notre Dame, South Bend, IN USA

- 1:20 PM **L32. Separation and Structural Characterization of Glycosaminoglycan (GAG) Oligomers by LC-MSⁿ Using a Chemical Derivatization Strategy**
Rongrong Huang and Joshua Sharp, Complex Carbohydrate Research Center, University of Georgia, Athens, GA USA
- 1:40 PM **L33. High Speed and High Resolution Separations of Peptides and Polypeptides Using Fused-Core Columns**
Thomas Waeghe, Mac-Mod Analytical, Chadds Ford, PA USA, Stephanie Shuster, and Barry Boyes, Advanced Materials Technology, Wilmington, DE USA
- 2:00 PM **Closing Comments and Adjourn**