

Provisional BPP2013 Meeting Program

Notes:

1. Invited oral presentations are 35 minutes plus 5 minutes for Q&A (40 minutes total). Accepted oral presentations are 25 minutes total, and poster oral summaries are 1 slide and 3 minutes each.
2. Unless noted (e.g. Monday dinner, Thursday lunch) meals are provided.

Sunday

15:00 - 20:00 Registration

15:00 - 20:00 Poster Set Up

18:00 - 20:00 Welcome Reception and Orientation

20:00 - 21:00 Introduction to Newport

Caitlin Emery, Research and Interpretation Coordinator
The Preservation Society of Newport County

21:00 - 22:00 Informal Poster Viewing (author attendance optional)

Monday

7:30 - 8:30 Breakfast

8:30 - 8:45 Welcome from Chairs and Outline of Program

8:45 - 11:10 Oral Presentation Session 1: Cell Separation and Primary Recovery

8:45 - 8:50 Introduction to Session from Session Co-Chairs

8:50 - 9:30 Invited Speaker

9:30 - 9:55 Second Speaker

9:55 - 10:20 Coffee Break

10:20 - 10:45 Third Speaker

10:45 - 11:10 Fourth Speaker

Session 1 Speakers (in order)

Ganesh Vedantham, Amgen, "Investigation of alternative separation technologies for the harvest of CHO cell culture".

Marco Rito-Palomares, Tecnológico de Monterrey, "Bioengineering strategies for the establishment of a novel process for the primary recovery of stem cell exploiting aqueous two-phase systems"

Emile van de Sandt, DSM Biotechnology Center, "Processing of high-density mammalian cell culture with Expanded Bed Adsorption technology"

Marcelo Fernández-Lahore, Jacobs University Bremen, "Second-generation expanded bed adsorption"

11:15 - 12:15 Poster Oral Summary Session A (3 min. x 16 posters)

12:15 - 13:45 Lunch

13:45 - 15:00 Poster Oral Summary Session B (3 min x 18 posters)

15:00 - 17:35 Oral Presentation Session 2: Molecular Design of Bioseparations

15:00 - 15:05 Introduction to Session from Session Co-Chairs

15:05 - 15:30 First Speaker

15:30 - 15:55 Second Speaker

15:55 - 16:20 Coffee Break

16:20 - 16:45 Third Speaker

16:45 - 17:10 Fourth Speaker

17:10 - 17:35 Fifth Speaker

Session 2 Speakers (in order)

Richard Willson, Univ. of Houston, “Unified super-resolution experiments and chromatographic theory reveal charge-clustering dominates protein ion exchange adsorption”

Haleh Ahmadian, Dept. of Protein Purification Technology, Novo Nordisk, “Structure-based design of purification process for a new rFVIII product”

Anna Sofia Pina, FCT-UNL, “Novel affinity pairs “tag-receptor” for the purification of fusion proteins”

David Latulippe, McMaster University, “RAPID selection of aptamers via multi-target microcolumn chromatography”

Barbara Andrews, Universidad de Chile, “Mutagenesis Objective Search and Selection Tool (MOSST) applied to engineer protein mutants with enhanced purification properties”

18:00 - 20:00 Dinner

Note: Attendees should make their own arrangements for this meal

20:00 - 22:00 Free Time and Poster Viewing (Poster authors should be present)

Tuesday

7:30 - 8:30 Breakfast

8:30 - 11:20 Oral Presentation Session 3: Non-Chromatographic Separations

8:30 - 8:35 Introduction to Session from Session Co-Chairs

8:35 - 9:15 First Talk (Second Invited Speaker)

9:15 - 9:40 Second Speaker

9:40 - 10:05 Third Speaker

10:05 - 10:30 Coffee Break

10:30 - 10:55 Fourth Speaker

10:55 - 11:20 Fifth Speaker

Session 3 Speakers (in order)

Steven Cramer, Rensselaer Polytechnic Institute, "Smart Biopolymer Affinity Precipitation for mAb Purification: Methods Development and Process Considerations"

Juan A. Asenjo, University of Chile, "Aqueous Two-Phase Systems for Protein Separation: Review and State of the Art"

Rupali Desai, Wageningen University Netherlands, "Aqueous two phase system based on ionic liquids for extracting biomolecules"

Anna Azevedo, IBB, Instituto Superior Técnico, Lisbon, "A novel approach for mAbs bioprocessing: Clarification and capture by aqueous two-phase extraction" Paul Dubin, Univ. Mass. Amherst, "Scalable protein separation by selective coacervation"

11:20 - 12:45 Oral Presentation Session 4: Analytics

11:20 - 11:25 Introduction to Session from Session Co-Chairs

11:25 - 11:50 First Speaker

11:50 - 12:15 Second Speaker

12:15 - 12:40 Third Speaker

12:40 - 12:45 Announcements incl. Location of Clambake Dinner

Session 4 Speakers (in order)

Charles Haynes, MSL, UBC, "A novel microfluidic platform for high-speed process analytical technology for biotherapeutics characterization"

Anna Senczuk, Amgen, "Development of a predictive analytical assay for cell culture clarification performance"

Boris Zaslavsky, Analiza Inc., "High throughput characterization of proteins' 3D structures in solution"

12:45 Box Lunch

12:45 to 18:00 Afternoon Free

18:00 to 20:00 Clambake at Hotel

20:00 - 22:00 Free Time and Poster Viewing (Poster authors should be present)

Wednesday

7:30 - 8:30 Breakfast

8:30 - 9:30 Oral Presentation Session 5: Modeling

8:30 - 8:35 Session Co-Chairs Intro

8:35 - 9:00 First Talk

9:00 - 9:25 Second Speaker

9:25 - 9:30 Pause

Session 5 Speakers (in order)

Astrid Duerauer, ACIB Austrian Centre of Industrial Biotechnology, "Mass Transfer and Kinetics of Protein Renaturation applied in μ - and Lab Scale"

Christian Frech, University of Applied Sciences Mannheim, “Modeling of gradient chromatofocusing in ion exchange chromatography”

9:30 - 11:45 Oral Presentation Session 6: Novel Approaches, Targets and Materials

9:30 - 9:35 Session Co-Chairs Intro

9:35 - 10:00 First Talk

10:00 - 10:25 Coffee

10:25 – 10:50 Second Speaker

10:50 – 11:15 Third Speaker

11:15 – 11:40 Fourth Speaker

11:40 – 11:45 Lunch Announcements incl. Location and Sponsor

Session 6 Speakers (in order)

Rainer Hahn, University of Natural Resources and Life Sciences Vienna, “Microparticles for continuous capture of proteins”

Gil Lee, University College Dublin, “Biomagnetic nanomaterials for high gradient magnetic affinity separation”

Juliane Merz, TU Dortmund, “Investigation of protein partitioning in tunable aqueous polymer phase impregnated resins”

Tiago Matos, Lund University, Sweden, “Multimodal chromatography for DNA separation and purification”

12:00 - 13:30 Lunch

13:30 - 16:00 Oral Presentation Session 7: Process Development Including HTPD

13:30 - 13:35 Session Co-Chairs Intro

13:35 - 14:15 First Speaker (Third Invited Speaker)

14:15 - 14:40 Second Speaker

14:40 - 15:05 Coffee Break

15:05 - 15:30 Third Speaker

15:30 - 15:55 Fourth Speaker

15:55 - 16:00 Announcements (incl. Dinner and Sponsors)

Session 7 Speakers (in order)

Jürgen Hubbuch, Karlsruhe Institute of Technology, Title TBD

Marcel Ottens, Delft University of Technology, “High throughput bio-purification process development - a hybrid approach”

Alexsandar Cvetkovic, Pall Life Science, “High throughput optimization approach for single step polishing of monoclonal antibodies following Protein A capture”

Deepa Nadarajah, Genentech Inc., “Overload and elute chromatography for enhanced MAb purification”

16:00 – 17:00 Break and Poster Viewing

17:00 - 18:00 Open Business Meeting in Session Room

(Possible Topics: BPP2015, BPP2017, and permanent BPP.Org)

18:00 - 19:00 Free Time and Poster Take Down

19:00 - 21:00 Dinner including Best Poster Announcement and Business Decisions

Thursday

7:30 - 8:30 Breakfast

8:30 - 11:15 Oral Presentation Session 8: Continuous and Integrated Processing

8:30 - 8:35 Session Co-Chairs Intro

8:35 - 9:15 First Talk (Fourth Invited Speaker)

9:15 - 9:40 Second Speaker

9:40 - 10:05 Third Speaker

10:05 - 10:30 Fourth Speaker

10:30 - 10:55 Fifth Speaker

Session 8 Speakers (in order)

Michael Phillips, EMD Millipore, “New Technologies Enabling an Integrated mAb Manufacturing Process with Cost and Operational Advantages”

Andrew Zydney, Penn State University, “Continuous countercurrent tangential chromatography using Protein A for initial capture of a monoclonal antibody”

Dana Pentia, Repligen Corp., “An integrated disposable column chromatography solution for continuous downstream processing”

Karol Lacki, GE Healthcare Life Sciences, “Continuous chromatographic technology aimed at vaccine applications using core bead chromatography for reduction of ovalbumin impurities”

José Paulo Mota, Universidade Nova de Lisboa, “Purification of adenovirus by 2-column periodic countercurrent chromatography

10:55 -11:10 Meeting Closing incl. notes on airport transport

Posters

Authors	Affiliation(s)	Title
Aguilar-Jiménez, Oscar Alejandro; Espitia-Saloma, Edith; Vázquez-Villegas, Olga Patricia; Rito-Palomares, Marco Antonio	Tec de Monterrey	Continuous Biological Products Extraction in Aqueous Two Phase Systems
Álvares-Ribeiro, Luís; Madeira, Pedro; Bessa, Ana; Teixeira, Miguel; Rodrigues, Alírio; Zaslavsky, Boris	University of Porto, Portugal	Quantitative Structure-Property Relationship for Odorants by Partitioning in Aqueous Two-Phase Systems
Andrews, Barbara; Braia, Mauricio; Tubio, Gisela; Salazar, Oriana; Lienqueo, Maria Elena; Romanini, Diana	Universidad de Chile	Development of a method for purifying trypsin that combines precipitation of protein-polyelectrolyte complexes with hydrophobic interaction chromatography
Angelo, James; Lenhoff, Abraham	University of Delaware	Mechanisms of Protein Sorption and Transport in Cellulosic Ion Exchangers of Differing Salt Tolerances
Arias, Joshua; Steele, Alexandra	EMD Millipore	Diafiltration Optimization for High Concentration UFDF Processes Impacted by the Donnan effect
Asenjo, Juan; Lucero, Alicia; Sánchez, Anamaria; Andrews, Barbara	Universidad de Chile	Purification Strategy of AAV and scAAV vectors for gene therapy against alcoholism
Batalha, Iris; Branco, Ricardo; Iranzo, Olga; Lowe, Christopher; Roque, C. A	University of Cambridge	Biomimetic Ligands for the enrichment of phosphoproteins
Benavides, Jorge; González-Valdez, José; Rito-Palomares, Marco	Tecnológico de Monterrey	Effects of Chemical Modifications in the Partition Behavior of RNase A in Aqueous Two-Phase Systems
Benavides, Jorge; Simental-Martinez, Jesús; Rito-Palomares, Marco	Tecnológico de Monterrey	Primary Recovery of Superoxide Dismutase from <i>Kluyveromyces marxianus</i> in Aqueous Two-Phase Systems
Frech, Christian; Kluters, Simon; Jacob, Lothar; Graalfs, Heiner	University of Applied Sciences Mannheim	Influence of slight variations of ion exchange media on the separation of proteins
Grudzien, Lukasz; Madeira, Luisa; Fisher, Derek; Ma, Julian; Garrard, Ian	Brunel University, London	Phase system selection with fractional factorial design for purification of a recombinant protein from a hydroponic culture medium using centrifugal partition chromatography

Hadidi, Mahsa; Zydney, Andrew	Pennsylvania State University	Ultrafiltration Behavior of Low Fouling Zwitterionic Membranes
Haynes, Charles; Vázquez-Villegas, Patricia; Ouellet, Eric; Aguilar, Oscar; Rito-Palomares, Marco	University of British Columbia	Evaluation of chaotic advection micromixers embedded in microfluidic devices for high throughput characterization of aqueous two-phase systems
Kallberg, Kristian; Bülow, Leif; Van Alstine, James	Lund, Sweden	Applications for a pH Responsive, Multimodal Chromatography Resin
Levy, Nicholas E.; Lewus, Rachael A.; Lenhoff, Abraham M.	University of Delaware	Monoclonal antibody Fc and Fab fragment self- and cross- interaction strengths
Ling, Tau Chuan; Show, Pau Loke; Anuar, Mohd Shamsul	University of Malaya	Direct Recovery of Lipase Derived from Microbial Feedstock Using Sustainable Aqueous Two-phase Flotation
Linke, Thomas; Fulton, Andrew; Wang, Yang; Hunter, Alan	MedImmune	On-Column Aggregation of a Recombinant Immunotoxin During Anion Exchange Chromatography
Madeira, Pedro; Bessa, Ana; Alvares-Ribeiro, Juis; Aires-Barros, M. Raquel; Rodrigues, Alirio; Uversky, Vladimir; Zaslavsky, Boris	University of Porto, Portugal	A new amino acid scale based on analysis of different types of amino acid-water interactions
Mayolo-Deloisa, Karla; González-González, Mirna; Simental-Martinez, Jesús; Rito-Palomares, Marco	Tecnológico de Monterrey	Aldehyde PEGylation of laccase from <i>Trametes versicolor</i> : Effect of reaction time on the enzyme activity
Mayolo-Deloisa, Karla; Salgado, Cristian; Ostos-Rangel, Diana; Zapata, Gerald; Lienqueo, Ma. Elena; Rito-Palomares, Marco; Asenjo, Juan	Tecnológico de Monterrey	Molecular modeling study of PEG-proteins interactions using AutoDock
Minim, Luis; Almeida, Guilherme; Alcântara, Lizzy; Minim, Valéria;	Federal University of Viçosa	Aqueous two phase system applied for norbixin purification
Minim, Luis; Fontan, Rafael; Bonomo, Renata; Minim, Valéria	Federal University of Viçosa	Direct purification of lysozyme from low diluted egg white using a supermacroporous monolithic cryogel column
Muthiah, Perumalsamy; Govindarajan, Rajendran	National Institute of Technology, India	Extraction of Cheese Whey Proteins using PEG/Citrate Based Environmentally Benign Aqueous Two-Phase System

Przybycien, Todd; Duan, Qiyang	Carnegie Mellon University	Propagation of Variance in Ion Exchange Chromatography for Protein Separations: Impact of Mobile Phase Variance
Rajesh Gavara, Poondi; Fernandez-Lahore, Marccelo; Grasselli, Mariano	ChiPro GmbH, Germany	Hybrid Disposable Cartridges for Integration of Downstream BioProcessing
Rito-Palomares, Marco; <i>González-González, Mirna</i>	Tecnológico de Monterrey	Partitioning of CD133 antibody in aqueous two-phase systems: In route to stem cell separation
Rito-Palomares, Marco; Ruiz-Ruiz, Federico; Benavides, Jorge	Tecnológico de Monterrey	Scaling-up of a B-phycoerythrin production and purification bioprocess involving aqueous two-phase systems: Practical experiences
Sanchez, Mirna; Martinez, Leandro; Achilli, Estefania; Fernandez-Lahore, Marcelo; Grasselli, Mariano	Universidad Nacional de Quilmes	Optimization of hydrodinamical and adsorptive properties of Chromatographic Gigaporse Columns
Schwienheer, Christoh; Merz, Juliane, Schembecker, Gerhard	TU-Dortmund, Germany	Countercurrent centrifugal extraction: A new and high efficient extraction apparatus based on centrifugal partition chromatography
Sheth, Rahul; Bhut, Bharat; Jin, Mi; Lee, Jongchan; Chen, Wilfred; Cramer, Steven	Rensselaer Polytechnic Institute	Affinity Precipitation of mAbs Using Stimuli Responsive Smart Biopolymers: Methods Development and Process Considerations
Silveira, Edgar; Coelho, Diego; Saturnino, Thais; Fernandes, Fernanda; Martins, Bianca; Zanchetta, Beatriz; Mazzola, Priscila; Tambougi, Elias	Uberlândia Federal University	Bioanalytical Method Validation of a Colorimetric Protocol to Determinate Proteolytic Activity of Bromelain
Silveira, Edgar; Coelho, Diego; Pitzschel, Birgit; Aguillón Enoch; Martins, Bianca; Zanchetta, Beatriz; Mazzola, Priscila; Tambougi, Elias	Uberlândia Federal University	PEG/(NH ₄) ₂ SO ₄ Aqueous Two-Phase Systems for Bromelain Purification
Willson, Richard; Poongavanam, Mohan-Vivekanandan; Kisley, Lydia; Chen, Jixin; Mansur, Andrea; Shuang, Bo; Kourentzi, Katerina; Dhamane, Sagar; Chen, Wen-Hsiang; Landes, Christy	University of Houston	Charge Clustering Dominates Protein Ion-Exchange Separations

Willson, Richard; Dhamane, Sagar; Ruiz-Ruiz, Federico; Chen, Wenhsiang; Poongavanam, Mohan-Vivekanandan; Kourentzi, Katerina; Benavides, Jorge; Rito-Palomares, Marco	University of Houston	Spermine Sepharose as a clustered-charge anion exchange adsorbent
Wohlgemuth, Kerstin; Sieberz, Julia; Schembecker, Gerhard	TU Dortmund, Germany	Polyelectrolyte precipitation: A new technique for antibody purification
Wong, Marc; Srivasava, Anjali; Butler, Michelle	Genentech	A F(ab') ₂ ulous Project – Achieving Cleavage of a Full-length Monoclonal Antibody Using Pepsin Chromatography
Woo, James; Parimal, Siddharth; Snyder, Mark; Cramer, Steven	Rensselaer Polytechnic Institute	Effect of Ligand Chemistry and Protein Surface Properties on Selective Adsorption in Multimodal Chromatography Systems
Zydney, Andrew; Shinkazh, Oleg; Napadensky, Boris; Tran, Travis; Teella, Achyuta	Penn State University	Continuous Countercurrent Tangential Chromatography using Protein A for Initial Capture of a Monoclonal Antibody