



# 40<sup>th</sup> International Symposium on the Separation of Proteins, Peptides & Polynucleotides Porto, November 7 – 10, 2021

## PRELIMINARY PROGRAMME

### SUNDAY, NOVEMBER 7, 2021

<b>15:00</b>	Start of Registration	
<b>17:00</b>	Welcoming Remarks by Cristina Dias-Cabral	
<b>Key Note Lecture – Chair: Cristina Dias-Cabral</b>		
<b>17:30</b>	tbd	tbd
<b>18:20</b>	Welcome Reception	

### MONDAY, NOVEMBER 8, 2021

#### Key Note Lecture – Chair: Sophia Hober)

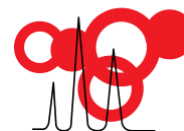
<b>08:30</b>	<b>Ruedi Aebersold</b> (ETH Zürich)	tbd
--------------	--	-----

#### Session 1: Analytical detection technologies I - Chair: Sophia Hober

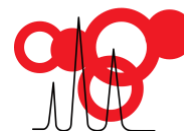
<b>9:20</b>	<b>Rainer Bischoff</b> (Univ. of Groningen)	Affinity LC-MS for high-sensitivity analysis of proteins in complex biological samples
<b>9:40</b>	<b>Jelle De Vos</b> (Vrije Universiteit Brussel)	Advances in microfluidic technology for spatial three-dimensional liquid chromatography
<b>10:00</b>	<b>Christoph Gstöttner</b> (Leiden University Medical Center)	Affinity sheathless-CE-MS as a new tool for the functional assessment of antibody - Fc receptor interactions
<b>10:15</b>	<b>Baubek Spanov</b> (Univ. of Groningen)	pH gradient-based cation exchange chromatography for the separation of charge variants of monoclonal antibodies after forced degradation study

**10:50** Refreshment Break

#### Session 2: Analytical detection technologies II - Chair: Michel Eppink



<b>11:00</b>	tbd	
<b>11:20</b>	<b>Dan Some</b> (Wyatt Technology)	RT-MALS: Real-time analysis of product attributes in downstream processing
<b>11:40</b>	<b>Owen Thomas</b> (Univ. of Birmingham)	Automated capillary-based CD/F systems: powerful additions to the PAT armoury
<b>12:00</b>	<b>Robin Schiemer</b> (Karlsruhe Institute of Technology)	Advanced machine-learning methods for the analysis of spectroscopic data in biopharmaceutical processes
<b>Flash Session 1 – Chair: Ana Azevedo</b>		
<b>12:15</b>	5 flash 3 minutes presentation + 7.5 minutes discussion 5 flash 3 minutes presentation + 7.5 minutes discussion	
<b>13:00</b>	Lunch Break	
<b>Session 3: Preparative separation technologies – Chair: Ales Podgornik</b>		
<b>14:30</b>	<b>Nico Lingg</b> (acib GmbH)	Affinity tag-based development and manufacturing platform for non-platform proteins
<b>14:50</b>	<b>Michel Eppink</b> (Byondis BV)	Nanofibers as an alternative for fast affinity separations
<b>15:10</b>	<b>Amin Javidanbardan</b> (IST, Univ. of Lisbon)	Development of Next-generation Microchromatographic System for Miniaturization of Bioprocess Development with Some Insights from Philosophy of Science
<b>15:25</b>	<b>Friederike Eilts</b> (Univ. of Applied Sciences Mittelhessen)	Time- and charge-dependent purification of nanoparticles with the steric exclusion chromatography
<b>15:40</b>	tbd	
<b>16:10</b>	Refreshment Break	
<b>Flash Session 2 – Chair: Alois Jungbauer</b>		
<b>16:40</b>	5 flash 3 minutes presentation + 7.5 minutes discussion 5 flash 3 minutes presentation + 7.5 minutes discussion	
<b>Flash Session 3 – Chair: Alois Jungbauer</b>		
<b>17:25</b>	5 flash 3 minutes presentation + 7.5 minutes discussion 5 flash 3 minutes presentation + 7.5 minutes discussion	
<b>18:10</b>	Networking Reception	



## TUESDAY, NOVEMBER 9, 2021

### Key Note Lecture – Chair: Sonja Berensmeier

**08:30**     **Steve Cramer**     tbd  
(Rensselaer Polytechnic Institute)

### Session 4: Products – Biopharmaceuticals I – Chair: Sonja Berensmeier

**09:20**     **Hans Johansson**     A new Protein A resin allowing quantitative elution of human IgG at pH 5  
(Purolute)

**09:40**     **Julia Scheffel**     A calcium-dependent Protein A-derived ligand for mild purification of antibodies  
(KTH Royal Institute of Technology)

**09:55**     **Egbert Müller**     Purification of IgY by Mixed Mode Chromatography  
(Tosoh Bioscience)

**10:15**     **Ana Cecília Roque**     Affinity magnetic precipitation for antibody purification  
(UCIBIO, FCT-NOVA)

**10:35**     Refreshment Break

### Session 5: Products – Biopharmaceuticals II – Chair: Raquel Aires Barros (tbc)

**11:05**     **Ana Rufino**     Separation of monoclonal antibodies using ionic-liquid-based aqueous biphasic systems  
(University of Aveiro)

**11:20**     **Jorge F. B. Pereira**     Purification of green, red and yellow fluorescent proteins using cholinium chloride-based aqueous biphasic systems  
(Univ. of Coimbra)

**11:40**     **Ana Rita Santos**     DNA-origami nanostructures: exploring chromatography for the purification of single stranded DNA scaffolds  
(iBB - Institute for Bioengineering and Biosciences)

**11:55**     **Sandra C. Bernardo**     Design of specific ligands for pre-miRNA purification  
(CICS-UBI)

**12:10**     **Sara Sousa Rosa**     A chromatography alternative for mRNA manufacturing  
(iBB - Institute for Bioengineering and Biosciences)

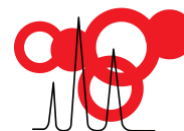
### Flash Session 4 – Chair: Ana Azevedo

**12:25**     7 flash 3 minutes presentation + 14 minutes discussion

**13:00**     Lunch Break

### Session 6: New Products – Chair: Cristina Peixoto

**14:30**     tbd

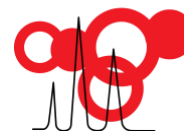


<b>14:45</b>	<b>Keven Lothert</b> (Univ. of Applied Sciences Mittelhessen)	Development of a scalable downstream purification process for Parapoxvirus Ovis (ORFV) purification for human and veterinary application
<b>15:00</b>	<b>Ana Sofia Moreira</b> (Instituto de Biologia Experimental e Tecnológica – iBET)	Improving processes and exploiting new tools for Lentiviral vectors purification
<b>15:15</b>	<b>Viktoria Mayer</b> (acib GmbH)	Purification of enveloped Virus-Like Particles displaying different membrane proteins by Heparin affinity chromatography
<b>15:30</b>	<b>Angela Valentini</b> (Karlsruhe Institute of Technology)	Effects of bound nucleic acids on the phase behavior and purification process of HBcAg virus-like particles for gene therapy
<b>15:45</b>	<b>Nils Hillebrandt</b> (Karlsruhe Institute of Technology)	Process Analytical Technology for Diafiltration-based Virus-like Particle Disassembly

**16:00** Refreshment Break

**Session 7: Continuous Processing – Chair: Ana Azevedo / Marcel Ottens (tbc)**

<b>16:30</b>	<b>Shuichi Yamamoto</b> (Yamaguchi University)	Design and optimization of flow-through chromatography processes
<b>16:50</b>	<b>Narges Lali</b> (acib GmbH)	Residence Time Distribution of Chromatography Unit Operation in Continuous Processing
<b>17:05</b>	<b>Diogo Faria</b> (Instituto Superior Técnico)	Oscillatory flow reactor: a solution for continuous biomanufacturing
<b>17:20</b>	<b>Mattia Sponchioni</b> Politecnico di Milano	Design and Application of Twin-Column Countercurrent Solvent Gradient Chromatography (MCSGP) to the Purification of Oligonucleotides
<b>17:40</b>	<b>Mariana Neves Sao Pedro</b> (TU Delft)	Development of a Fluorescent Dye-Based Miniaturized Sensor for Aggregate Detection in Integrated Continuous Processing
<b>17:55</b>	<b>Maria del Carme Pons Royo</b> (BOKU Vienna)	How to design continuous devices to improve tangential flow filtration and product quality in protein precipitation
<b>18:10</b>	tbd	
<b>18:30</b>	End of session	
<b>20:00</b>	Conference Dinner	



## WEDNESDAY, NOVEMBER 10, 2021

### Key Note Lecture – Chair: Raquel Aires Barros (tbc)

08:30 Arlindo Oliveira tbd

### Session 8: Fundamentals and Modelling I – Chair: Egbert Müller

9:20 **Giorgio Carta**  
(Univ. of Virginia) Kinetics of Binding of Conformationally-Flexible Multidomain Proteins on Porous Cation Exchange Resins

9:40 **Leo Jakob**  
(BOKU, Vienna) Protein-protein interactions in HIC dual salt systems

9:55 **Jannette Kreuzer**  
(TU Kaiserslautern) Influence of Salts and pH Value on the Adsorption of Bovine Serum Albumin on a Mixed-Mode Resin

10:10 **Ales Podgornik**  
(Faculty of Chemistry and Chemical Technology, Univ. of Ljubljana) Fast non-invasive determination of ionizable functionalities via pH transient

10:30 Refreshment Break

### Session 9: Fundamentals and Modelling II – Chair: Cristina Dias-Cabral

11:00 **Nikolaus Hammerschmidt**  
(Boehringer Ingelheim) Centrifugal separation - A modeling approach considering feed and separator properties

11:20 **Maximilian Krippel**  
(BOKU Vienna) Hybrid Modeling in Tangential Flow Filtration: Enabling digital solutions for fast process development and control

11:35 **Lucía Abarca Cabrera**  
(Technical Univ. Munich) Separation of the main macromolecules from model and biotechnological mixtures using iron oxide nanoparticles

11:50 tbd

12:10 Presentation of Poster Awards and Concluding Remarks

12:30 End of conference