

## EU COST Workshop:

### DGMS- Fachgruppe Affinity- Mass Spectrometry

## “Biomolecular Recognition and Mass Spectrometry”

26<sup>th</sup> - 27<sup>th</sup> October 2015

Senatssaal Stadt Rüsselsheim

## Programme

Monday, 26<sup>th</sup> October 2015

Senatssaal

09:00 – 10.00 **Registration & Welcome Coffee**

10:00 **Welcome & Opening Addresses**

**Michael Przybylski**, Chairman

Steinbeiszentrum Biopolymer Analysis & Biomedical Mass Spectrometry,  
Rüsselsheim

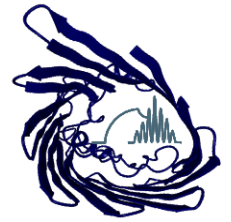
**Martin Schipper**, Stadt Rüsselsheim

**Michael Glocker**, DGMS- Fachgruppe Affinity- Mass Spectrometry;  
Head, Proteome Center, Universität Rostock

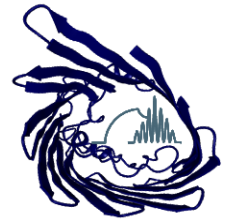
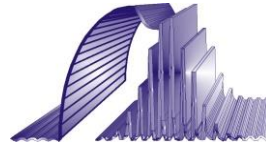
**Session 1: New Mass Spectrometry Tools in Proteomics and Affinity-Proteomics**

(Chair: Michael Glocker)

10:30 **Frank Sobott**, University of Antwerp, BE:  
"Protein higher-order structure characterization by native MS and ion mobility methods"

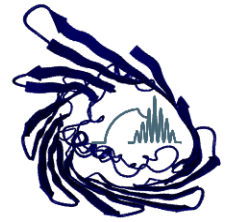


- 11:00            **Albert Lebedev**, Moscow State University, Moscow, RU:  
Mass spectrometric determination of amphibian peptidome and its application for the differentiation of frogs' species and populations
- 11:30            **Christian Bunse**, Shimadzu GmbH, Duisburg, DE:  
LCMS- 8060 - A new level of sensitivity
- 12.00            **Arno Graf**, ERC GmbH, Riemerling, DE:  
Controlled reduction of disulphide bonds in protein therapeutics using an electrochemical reactor cell online with MS
- 12:30            *Lunch*
- Session 2:**        **New Tools and Applications in Immunoaffinity- MS**  
Chair: Katrin Marcus, Bochum
- 13:30            **Michael Glocker**, Medical University Rostock, DE  
Novel developments in mass spectrometric epitope mapping approaches and clinically relevant applications – towards 2<sup>nd</sup> generation autoimmune disease diagnostics
- 14:00            **Wolfgang Jabs**, Bruker Daltonik, Bremen, DE  
Monoclonal antibody characterization using ultra-high resolution QTOF mass spectrometry
- 14:30            **Frederik Weiss**, Naturwissensch.-Medizin. Institute Reutlingen, DE:  
Quantifying the human cytochrome P450 system using affinity proteomics
- 15.00            *Coffee Break*



**Session 3: New Developments in Bioaffinity- Mass Spectrometry**  
Chair: Petr Novak, Prague

- 15.30 **Friedrich Herberg**, University of Kassel, DE:  
Analysis of protein kinase function using SPR and affinity tools
- 16:00 **Nico Dankbar**, Xantec GmbH, Düsseldorf, DE  
The best of two worlds: Combining mass spectrometry with surface plasmon resonance
- 16:30 **Michael Przybylski**, Steinbeis Centre for Biopolymer Analysis, Rüsselsheim, DE:  
Structure determination and affinity-quantification of biopolymer epitopes using online SPR-ESI-MS
- 17:00 **Serge Muyldermans**, Vrije Universiteit Brussels, BE:  
Nanobodies: Minimal sized, high-affintiy, high specificity reagents
- 17:30 **Ivana Jovceska**, University of Lubljana, SI  
Exploiting nanobodies in the search for protein markers of glioblastoma multiforms
- 18:30 Train to Mainz- Station Mainz-Römisches Theater and  
Historic Walk through Altstadt Mainz &  
Workshop Dinner Restaurant "Heiliggeist" Mainz
- 19.30 - **Workshop Dinner Restaurant "Heiliggeist"**



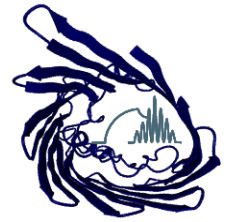
Tuesday, 27<sup>th</sup> October 2015

Senatssaal

**Session 4: Development and Characterization of New Affinity Tools and Reagents**

Chair: Michael Przybylski, Rüsselsheim

- 09:00 **Stefan Dübel**, Technical University Braunschweig, DE:  
High throughput recombinant antibody generation for research: what has been achieved and what's still to do
- 09:30 **Guillaume Bechade**, Waters AG, Baden, CH  
A fully integrated hydrogen-deuterium exchange MS solution to support epitope mapping and ligand binding studies
- 10:00 **Petr Pompach**, Institute for Microbiology, Charles University Prague, CZ  
Direct immuno-affinity mass spectrometry for detection of haptoglobin phenotypes
- 10:30 **Susanna Lundström**, Karolinska Institutet, Stockholm, SE  
IgG-omics, a window into the human blood proteome with clinical implications
- 11:00 *Coffee break*



**Session 5: Immunoaffinity- mass Spectrometry: Instrumental Development and Clinical Applications**

Chair: Stefan Maeser, Rüsselsheim

11:30 **Katrin Marcus**, Ruhr-Universität Bochum, DE  
Enrichment of  $\alpha$ -Synuclein as a potential biomarker for Parkinson's Disease through immunoprecipitation for characterization and quantification via Top Down Proteomics

12:00 **Sibylle Heidelberger**, Sciex Ltd., Warrington, UK:  
Direct analysis of plasma sphingolipids for research into lysosomal storage metabolism

12:30 **Christopher Gerner**, University of Vienna, AU:  
Assessment of the efficiency of antibody-based protein depletion for serum proteome profiling for the investigation of cancer-associated cachexia

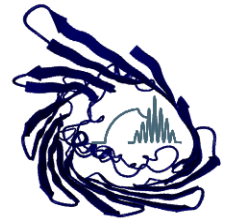
13:00 *Lunch*

**Session 6: New Technologies of Mass spectrometry for Analysis of Biomolecular Interactions**

Chair: Serge Muyldermans, Petr Novak, Michael Przybylski

14:00 **Eugene Nikolaev**, Russian Academy of Sciences, Moscow, RU:  
Potentials of the ultra- high resolution FT-ICR-MS

14:30 **Stefan Slamnoi**, Jeol GmbH, München, DE  
JEOL SpiralTOF - providing ultra-high mass resolution for MALDI-TOF applications



- 15:00 **Natalia Starodubtseva**, Research Center for Obstetrics, Gynecology and Perinatology, Russian Academy of Medical Sciences, Moscow, RU  
Proteomics in neonatology: Non-invasive diagnosis and prognosis of neonatal complications in neonates under intensive care
- 15:30 *Coffee Break*
- 16:00 **Hartmut Schlüter**, University of Hamburg, DE:  
Investigating protease-ligand interaction by the mass spectrometry assisted enzyme screening system (MES)
- 16:30 **Kwabena Opuni**, Medical University of Rostock, DE  
In-Silico epitope mapping: Experiences with the rheumatoid arthritis autoantigen glucose-6-phosphate isomerase (GPI)
- 17:00 **Marius Iurascu**, Steinbeis Centre Rüsselsheim & University of Konstanz, DE:  
Identification of an mixed-disulfide assembled epitope of an HLA-B27 antibody by affinity- mass spectrometry
- 17:20 **Petr Novak**, Czech Academy of Sciences, Prague, CZ:  
Planar functionalized surfaces for direct immunoaffinity desorption/ionization mass spectrometry
- 17:50 Concluding Discussion & Conclusion of Workshop
- 18:10 Visit and Guided Tour, City Museum Rüsselsheim
- 19:00 - Dinner (individual)