November 17 – 18, 2016 at ISAS e. V.,
Otto-Hahn-Straße 6b,
44227 Dortmund, Germany

6th Symposium on Structural Proteomics 2016

Cross-linking, HDX, Covalent modification, Limited proteolysis,
Ion mobility, Native MS, Affinity labeling, Protein structure modeling

Organization committee:
Albert Sickmann (Dortmund, Germany), Christoph Borchers (Victoria, Canada), Evgeniy Petrochenko (Victoria, Canada)
Agenda
Thursday, 17th November 2016

WELCOMING
Albert Sickmann (Director of ISAS)
Christoph Borchers (Director UVic Genome BC Protein Centre)
Start: 09:00 am

SESSION 1 – CHAIR: CHRISTOPH BORCHERS

Start: 09:15 am
Speaker: Nikolay Dokholyan - University of North Carolina at Chapel Hill
Title: From etiology to therapeutics of the Lou Gehrig’s disease

Start: 09:35 am
Speaker: Frank Sobott - University of Antwerp
Title: Dynamic protein structure: from protein disorder to membrane pores

Start: 09:55 am
Speaker: Kevin Pagel - Freie Universität Berlin
Title: Gas-phase Infrared Spectroscopy of Proteins and Protein Assemblies

Start: 10:15 am
Speaker: Albert Konijnenberg - University of Antwerp
Title: Probing the effect of small molecules on the ensemble structure of alpha-synuclein

Start: 10:20 am
Speaker: Knut Kölbel - University of Antwerp
Title: Effect of ligand binding on gas-phase structure and collision-induced unfolding of D-alanine:D-alanyl carrier protein ligase

Start: 10:25 am
Speaker: Jeroen van Dijck - University of Antwerp
Title: The activation and oligomerization of BAX after treatment with different activating compounds or peptides.

COFFEE BREAK
Start: 10:30 am

SESSION 2 – CHAIR: FRANK SOBOTT

Start: 11:00 am
Speaker: Michael Przybylski - University of Konstanz
Title: Epitope identification and affinity quantification of protein-ligand interactions using online SPR-biosensor-ESIMS
Start: 11:20 am
Speaker: Michael Glocker - University of Rostock
Title: What Mass Spectrometry Can Tell Us About In-Solution Protein Complex Stabilities - And Why We Want To Know Them

Start: 11:40 am
Speaker: Johannes Heidemann - Leibniz Institute for Experimental Virology, Hamburg
Title: Structural characterization of protein-lipid complexes involved in clathrin-mediated endocytosis

Start: 12:00 pm
Speaker: Lara Flacht - Leibniz Institute for Experimental Virology, Hamburg
Title: Structural organization of the Type III Secretion System sorting platform in Salmonella typhimurium

Start: 12:05 pm
Speaker: Boris Krichel - Leibniz Institute for Experimental Virology, Hamburg
Title: Structure dependent procession of polyprotein7-10 and formation of a replication-transcription complex of SARS Coronavirus

Start: 12:10 pm
Speaker: Ronja Pogan - Leibniz Institute for Experimental Virology, Hamburg
Title: Studying viral capsid glycan interaction with native MS

Start: 12:15 pm
Speaker: Petra Darebná - Institute of Microbiology, The Czech Academy of Sciences
Title: Protein affinity surfaces prepared by ambient ion landing compatible with MALDI mass spectrometry

LUNCH BREAK & POSTER SESSION
Start: 12:20 pm

SESSION 3 – CHAIR: MICHAEL PRZYBYLSKI

Start: 13:45 pm
Speaker: Gergely Lukacs - McGill University
Title: Coupled destabilization of NBD1 subdomains by cystic fibrosis mutations

Start: 14:05 pm
Speaker: Michal Dadlez - Institute of Biochemistry and Biophysics, Warsaw
Title: Novel insights into intermediate filament organization obtained by hydrogen deuterium exchange (HDex) study.

Start: 14:25 pm
Speaker: Lenka Hernychová - Masaryk Memorial Cancer Institute
Title: Analysis of conformational and binding properties of human Hsp70 molecular chaperone by hydrogen deuterium exchange mass spectrometry

Start: 14:30 pm
Speaker: Lucie Hernychová - Institute of Microbiology, The Czech Academy of Sciences
Title: The C-type Lectin-like Receptor Nkrp1b: Aspects of Its Structure
COFFEE BREAK
Start: 14:35 pm

SESSION 4 – CHAIR: KARL MECHTLER

Start: 15:30 pm
Speaker: Petr Novak - Institute of Microbiology, The Czech Academy of Sciences
Title: MALDI-Compatible Protein Chips Prepared By Ambient Ion Soft Landing

Start: 15:50 pm
Speaker: Gary Kruppa - Bruker
Title: DeutEx, A Software Package for the Fully Automated Analysis of HDX Data

Start: 16:10 pm
Speaker: Petr Man (Petr Novak) - Institute of Microbiology, The Czech Academy of Sciences
Title: Improving spatial resolution and data processing in H/D exchange.

Start: 16:15 pm
Speaker: Michal Rosulek - Institute of Microbiology, The Czech Academy of Sciences
Title: MALDI compatible biochips for proteomic studies

Start: 16:20 pm
Speaker: Jiri Hausner - Institute of Microbiology, The Czech Academy of Sciences
Title: Structural changes of ClC-ec1 induced by differential anion binding studied by hydrogen/deuterium exchange.

ROUND TABLE DISCUSSION
Start: 16:25 pm

CONGRESS PARTY & DINNER
Start: 18:00 pm
Restaurant Strobels (Strobelallee 50, 44139 Dortmund, Germany)

WESTFALENSTADiUM TOUR
Start: 18:30 pm
Westfalenstadium (Strobelallee 50, 44139 Dortmund, Germany)
SESSION 5 – CHAIR: PETR NOVAK

Start: 09:00 am
Speaker: Andrea Sinz - Martin-Luther University Halle-Wittenberg
Title: Divide and Conquer - Cleavable Cross-linkers to Study Protein Conformation and Protein-Protein Interactions

Start: 09:20 am
Speaker: Carla Schmidt - Martin Luther University Halle-Wittenberg
Title: Biophysical characterization of yeast PROPPIN Atg18 reveals oligomerisation upon membrane binding

Start: 09:40 am
Speaker: Gianluca Degliesposti - MRC Laboratory of Molecular Biology Cambridge
Title: Atomic structure of Mitochondrial Complex I: Resolution improvements driven by chemical cross-linking and mass spectrometry

Start: 10:00 am
Speaker: Oleg Klykov - Utrecht University
Title: The Architecture and Spacer Acquisition in Type I-F Cas1:Cas2-3 CRISPR Complex by Structural Mass Spectrometry.

Start: 10:20 am
Speaker: Anargyros Politis - King’s College London
Title: Determining the structure and dynamics of macromolecular assemblies using an MS-based hybrid strategy

COFFEE BREAK
Start: 10:40 am

SESSION 6 – CHAIR: ANDREA SINZ

Start: 11:00 am
Speaker: Henning Urlaub - MPI for Biophysical Chemistry Goettingen
Title: Analysis of UV-induced DNA–protein cross-links in a chromatin model

Start: 11:20 am
Speaker: Alexander Leitner - Institute of Molecular Systems Biology ETH Zurich
Title: High-resolution mapping of protein-RNA interactions by crosslinking of segmentally isotope-labelled RNA and LC-MS/MS

Start: 11:40 am
Speaker: Christian Tüting - Martin Luther University Halle Wittenberg
Title: Structural Analysis of Protein-Protein Interactions in the Polyadenylation Complex by Chemical Crosslinking and Mass Spectrometry

Start: 11:45 am
Speaker: Christine Piotrowksi - Martin-Luther University Halle-Wittenberg
Title: Structural Investigation of the Calmodulin/ bMunc13-2 Interaction by Cross-Linking and Mass Spectrometry
**Start: 12:50 pm**
Speaker: Christian Ihling - Martin-Luther University Halle-Wittenberg
Title: Structural insights into retinal guanylyl cyclase-GCAP-2 interaction determined by cross-linking and mass spectrometry

**Start: 12:55 pm**
Speaker: Christian Arlt - Martin-Luther University Halle-Wittenberg
Title: Structure of Full-Length Wild-Type Tetrameric p53 Tumor Suppressor Probed by an Integrated Mass Spectrometry-Based Approach

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LUNCH BREAK & POSTER SESSION
Start: 13:00 pm

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**SESSION 7 – CHAIR: EVGENIY PETROTCHENKO**

**Start: 14:30 pm**
Speaker: Fan Liu - Utrecht University
Title: Developing structural interactomics and its application in cell biology

**Start: 14:50 pm**
Speaker: Luitzen de Jong - University of Amsterdam
Title: Cross-linking of bacterial cells in culture reveals dynamic protein-protein interactions on a proteomic scale

**Start: 15:10 pm**
Speaker: Roza I Viner - Thermo Fisher Scientific USA
Title: Novel data acquisition and analysis strategies for high confident cross-link identification using Orbitrap mass spectrometers.

**Start: 15:30 pm**
Speaker: Elena Rudashevskaya - ISAS
Title: Proteome-wide identification of protein-protein interactions by in vivo chemical crosslinking and mass spectrometry.

**Start: 15:35 pm**
Speaker: Claudio Iacobucci - Université de Brest
Title: Copper-catalysed click reaction performed in the gas phase: a mass spectrometric mechanistic study.

**Start: 15:40 pm**
Speaker: Christoph Hage - Martin-Luther University Halle-Wittenberg
Title: Dissociation behavior of a bifunctional TEMPO-benzyl active ester for peptide structure analysis by free-radical-initiated-peptide-sequencing (FRIPS) mass spectrometry in negative ESI-MS

**Start: 15:45 pm**
Speaker: Michael Götze - Martin-Luther University Halle-Wittenberg
Title: Efficient Identification of Cross-Linked Peptides with StavroX and MeroX in Structural Proteomics

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COFFEE BREAK
Start: 15:50 pm
Start: 16:00 pm
Speaker: Peter Højrup - University of Southern Denmark Odense
Title: Exploring the structure of calreticulin by multiple XLMS strategies and new software.

Start: 16:20 pm
Speaker: Zsuzsanna Orbán-Németh - Institute of Molecular Pathology Vienna, Austria
Title: Structural prediction of protein models using comprehensive XL-MS data

Start: 16:40 pm
Speaker: Stefan Kalkhof - Hochschule für angewandte Wissenschaften Coburg
Title: Structural evaluation of Follicle-stimulating hormone receptor with spatial restraints by chemical crosslinking.

Start: 17:00 pm
Speaker: Stéphane Chaignepain - Université de Bordeaux
Title: Structural characterization of the yeast CF IA complex through a combination of mass spectrometry approaches.

Start: 17:05 pm
Speaker: Nir Kalisman - The Hebrew University of Jerusalem
Title: Good practices for successful cross-linking and mass-spectrometry

Start: 17:10 pm
Speaker: Oleg Klychnikov - KU Leuven
Title: Maleimide diazirine XL-MS and cysteine walking for mapping intermediate filaments

CLOSING REMARKS
Start: 17:15 pm

Karl Mechtler (IMP - Research Institute of Molecular Pathology)
Evgeniy Petrotenko (UVic Genome BC Protein Centre)
Albert Sickmann (Leibniz-Institut für Analytische Wissenschaften -ISAS- e. V.)