

MPSA2010, August 25-28

Norrland Nation, Uppsala, Sweden

Program

Wednesday 25/8

12.00- Registration
17.30-18.45 **Welcome - Jan Johansson**

Keynote lecture (Chairperson: Ettore Appella)
Phosphoproteomics of the DNA damage response
Tony Hunter, Salk Institute, USA

18.45- **Get together at the Norrland Nation**

Thursday 26/8

08.30-10.15 **Molecular chaperones** (Chairperson: Richard Perham)

Mechanisms of chaperone action in health and disease
Ulrich Hartl, Max Planck Institute, Martinsried, Germany.

Allosteric states and chaperonin assisted protein folding
George Lorimer, University of Maryland, USA.

Protein evolvability – a reconstructive approach
Dan Tawfik, Weizman Institute, Israel.

OP1. Studies of molecular chaperones using ion mobility mass spectrometry
Justin LP Benesch, University of Oxford, UK

10.15-10.45 **Coffee**

10.45-12.45 **Proteomics** (Chairperson: Hisashi Hirano)

Activity-based proteomics - applications for enzyme and inhibitor discovery
Ben Cravatt, Scripps Research Institute, USA.

Mapping protein-protein interactions: from yeast to human diseases
Daniel Figeys, University of Ottawa, Canada.

Ex vivo and *in vitro* investigations of amyloidogenic proteins and their interactions
Catherine Costello, University of Boston, USA

Thursday 26/8, continued

OP2. Analysis of protein complexes using chemical cross-linking and mass spectrometry

Alexander Leitner, ETH Zurich, Switzerland

OP3. Laser ablation electrospray ionization mass spectrometry (LAESI) for imaging mass spectrometry

Trust Razunguzwa, Protea Biosciences, Morgantown, USA.

12.45-13.45 **Lunch seminar** sponsored by **Waters**

13.45-15.00 **Edman Award Lectures** (Chairpersons: Hans Jörnvall and Ettore Appella)

Amyloid: from peculiarity to hot topic

Per Westermark, Uppsala University, Sweden.

Amyloid M & M - molecules and models

Gunilla Westermark, Uppsala University, Sweden.

15.00-16.45 **Protein folding in the cell** (Chairperson: Gunilla Westermark)

The unfolded protein response in health and disease

Peter Walter, UC San Francisco, USA.

Pathobiology of antitrypsin deficiency and the serpinopathies

David Lomas, Cambridge University, UK.

Structure-activity relationship of amyloids

Roland Riek, ETH Zürich, Switzerland.

OP4. Multiparametric fluorescence microscopy imaging of amyloid β allows for direct observations of protein misfolding in vitro and in cells

Elin K. Esbjörner, University of Cambridge, UK

17.00-19.00 **Poster Session I with refreshments**

Friday 27/8

08.30-10.15

Structural studies of protein fibril formation

(Chairperson: Ann-Christin Brorsson)

Structural studies of the amyloid state

David Eisenberg, UCLA, USA.

Investigating the structure of fibrillar assemblies

Louise Serpell, University of Sussex, UK.

Friday 27/8, continued

Recombinant spider silk: regulation of assembly and biomaterial applications
My Hedhammar, SLU, Sweden.

OP5. Conformational changes during amyloid formation at atomic resolution
Timo Eichner, University of Leeds, UK

10.15-10.45

Coffee

10.45-12.15

Membrane proteins (Chairperson: Yafei Huang)

Membrane protein folding in detergents
Charles Deber, Research Institute, Hospital for Sick Children, Toronto, Canada.

Peptoid-based mimics of very hydrophobic proteins
Annelise Barron, Stanford University, USA

OP6. Structural insight into solute transport regulation and immunological recognition of *Neisseria meningitidis* outer membrane protein PorB
Mikio Tanabe, Martin-Luther-Universität Halle-Wittenberg, Germany

OP7. Dynamics and function of membrane-spanning model helices
Dieter Langosch, Technische Universität München, Freising, Germany

12.15-13.15

Lunch seminar sponsored by Thermo Fisher Scientific

13.15-15.30

Proteomics and Biomarkers (Chairperson: Per Andrén)

Clinical protein diagnosis and imaging mass spectrometry developments with an emphasis on lung cancer and COPD
György Marko-Varga, Lund University, Sweden and Tokyo Medical University, Japan

Bioaffinity- Mass spectrometry: New molecular approaches for biomedical proteomics and vaccine development
Michael Przybylski, University of Konstanz, Germany.

Measuring and imaging proteins and protein complexes via DNA reporters
Ulf Landegren, Uppsala University, Sweden

A human protein atlas
Per-Henrik Edqvist, Uppsala University, Sweden

Friday 27/8, continued

OP8. Thymidine kinase 1 as proliferation biomarker; new antibody based methods suitable for cell cycles and clinical serum studies.

Staffan Eriksson, SLU, Uppsala, Sweden

15.30-17.30 **Poster Session II with refreshments**

19.30- **Banquet at Uppsala Castle**

Saturday 28/8

08.30-10.00 **Proteins in development and degeneration** (Chairperson: Lars Nilsson)

Intrinsically disordered proteins (IDPs): A role in nervous system development

Joel Sussman, Weizman Institute, Israel.

Alzheimer's disease: how protein engineering can provide new tools for research and potential pharmaceuticals

Torleif Härd, SLU, Sweden.

Integrated structural biology: from the molecule to the cell

Dino Moras, Institut de Génétique et de Biologie Moléculaire et Cellulaire, Illkircho, France

10.00-10.30 **Coffee**

10.30-12.15 **Protein evolution and design** (Chairperson: Sophia Schedin-Weiss)

Engineering expression, stability and crystal contacts in target proteins and their binding partners.

Andreas Plückthun, University of Zürich, Switzerland.

The complexity of enzymes: from the active site to the whole protein.

Gemma Holliday, EMBL Hinxton, UK.

Creating enzymes not found in nature using random protein libraries

Burckhard Seelig, University of Minnesota, USA

OP9. Identification of emerging quasi-species in directed enzyme evolution

Bengt Mannervik, Uppsala University, Uppsala, Sweden

12.15-13.00 **Viktor Mutt Memorial Lecture** (Chairperson: Hans Jörnvall)

Bioactive peptides important in innate immunity

Birgitta Agerberth, Karolinska Institutet, Stockholm, Sweden

Saturday 28/8, continued

13.00-14.00 **Lunch Seminar** sponsored by **Biomotif & MS Vision**

14.00-15.15 **How proteins get into and through membranes** (Chairperson: Anna Rising)

How membrane proteins get into membranes

Gunnar von Heijne, Stockholm University, Sweden.

Protein import into the intermembrane space of mitochondria

Johannes Herrmann, University of Kaiserslautern, Germany.

OP10. Biogenesis, integration and topology of viral membrane proteins

Ismael Mingarro, University of Valencia, Spain

15.15-15.45 **Closing lecture** (Chairperson: Mikael Widersten)

An integrated model for enzyme catalysis emerges from links of probes for hydrogen tunneling to protein dynamics

Judith Klinman, UC Berkeley, USA.