

28th Swedish Conference on Macromolecular Structure & Function

SWEPROT 2025

Annual Symposium of SFBBM (Swedish Society for Biochemistry, Biophysics and Molecular Biology)
in collaboration with SBNet (Swedish Structural Biology Network), in 2025 arranged by Stockholm
University and Karolinska Institutet

Friday June 13th

16:30 – 18:00 Conference desk open

18:00 – 19:30 Dinner

19:45 – 20:45 Session Ia: Opening and Awards

Chair: Prof. Pål Stenmark

19:45 – 20:00 Welcome, presentation of the Svedberg awardees

20:00 – 20:45 The 2025 Svedberg Award Lecture by Dr. Michael Landreh.

Weighing in: What native mass spectrometry can tell us about elusive protein interactions

20:45 – 21:15 PI meeting

Saturday June 14th

07:00 – 08:45 Breakfast

09:00 – 11:40 Session II: Multiscale structural biology

Chair: Dr. Marta Carroni

09:00 – 09:45 Keynote 1: Prof. Ulrich Hartl, Max Planck Institute of Biochemistry

Recent aspects of molecular chaperone functions in protein folding

09:50 – 10:10 Lukas Grunewald, Uppsala University

Ultrafast Water Rearrangements in Phytochromes: Unveiling a Remote Proton-Coupled Photoactivation Mechanism

10:10 – 10:30 Johanna Hultman, Linköping University

The N-Myc MB0-MBI region forms a specific, functional and fuzzy complex with the N-lobe of Aurora kinase A

10:30 – 11:00 Coffee

11:00 – 11:20 Candice Gautier, Uppsala University

Linking Structure and Genetics in Usher Syndrome type 2: Multiscale Analysis of the Ankle-Link Complex

11:20 – 11:40 Johannes Panagiotidis, University of Gothenburg

Molecular mechanisms for osmotic regulation in fish

12:00 – 13:30 Lunch

13:30 – 15:20 Session III: Structural enzymology

Chair: Prof. Martin Högbom

13:30 – 14:15 Keynote 2: Prof. Chris Greening, Monash University

Enzymatic energy extraction from atmospheric trace gases

14:20 – 14:40 Moritz Senger, Uppsala University

From Catalysis to Sensing: How Protein Scaffolds Fine-Tune [FeFe]-Hydrogenase function

14:40 – 15:00 Davide Zabeo, University of Gothenburg

Functional and structural characterization of the polymodal ligand-gated ion channel LGC-39

15:00 – 15:20 Gerhard Hofer, Stockholm University

Continuous Serial Electron Diffraction (SerialED) for High-Quality Protein Structures

15:20 – 16:00 Coffee

16:00 – 17:50 Session IV: AI methods in structural biology/structural bioinformatics

Chair: Prof. Arne Elofsson

16:00 – 16:45 Keynote 3: Prof. Martin Steinegger, Seoul National University

Exploring the Protein Universe via Highly Accurate Structural Predictions

16:50 – 17:10 Maria Levkovets, Linköping University

Enhancing Protein Complex Modeling via Automated Structural Homolog Search

17:10 – 17:30 Bernadette Mayer, Gothenburg University

Elucidating KcsA structural dynamics using time-resolved X-ray solution scattering and molecular dynamics simulations

17:30 – 17:50 Yogesh Kalakoti, Linköping University

Improving generative methods to capture conformational diversity in protein ensembles

18:00 – 19:30 Dinner

20:00 – 21:30 Poster Session I

Sunday June 15th

07:00 – 08:45 Breakfast

09:00 – 10:00 Session Ib: Awards

Chair: Prof. Pål Stenmark

09:00 – 09:15 Presentation of the 2024 Svedberg awardee

09:15 – 10:00 The 2024 Svedberg Award Lecture by Dr. Björn Reinius

Chromosomes and Crises: From X-Chromosome Regulation to Pandemic Diagnostics

10:00 – 10:30 Coffee

10.30 – 12.20 Session V: Membranes

Chair: Prof. David Drew

10:30 – 11:15 Keynote 4: Prof. Simon Newstead, University of Oxford

Identification of SLC45A4 as a pain gene encoding a neuronal polyamine transporter.

11:20 – 11:40 Shu-Chieh Chang, Uppsala University

Bax assemblies visualized in dying cells using super-resolution microscopy

11:40 – 12:00 Hannah Fremle, University of Gothenburg

Elucidating the functional details of Protein Quality Control of Integral Membrane Proteins by the Bacterial Metalloprotease FtsH

12:00 – 12:20 Viktoria Bågenholm, Lund University

Cryo-EM structure of the human monocarboxylate transporter 10

12:20 – 13:30 Lunch

13:30 – 16:00 Session VI: Nucleotide Metabolism

Chair: Prof. Luca Jovine

13:30 – 14:15 Keynote 5: Prof. Britt-Marie Sjöberg, Stockholm University

The ATP-cone domain controls both expression and enzyme activity of ribonucleotide reductase

14:20 – 14:40 Christopher Dirks, Karolinska Institutet

Antiviral nucleotide analogues trap chemoresistance factor SAMHD1 in an inactive tetrameric state

14:40 – 15:00 Julian Ludäscher, Stockholm University

Structural studies of DNA glycosylases in DNA repair

15:00 – 15:20 Dev Thacker, Lund University

Aggregation of amyloid β 42 in Alzheimer's patient cerebrospinal fluid

15:20 – 16:00 Sponsored content

16:00 – 16:30 Coffee

16:30 – 18:00 Networking hour

18:00 – 19:30 Dinner

20:00 – 21:30 Poster Session II

Monday 16th June

07:00 – 08:45 Breakfast

09:00 – 11:50 Session VII: Molecular motions

Chair: Prof. Astrid Gräslund

09:00 – 09:45 Keynote 6: Prof. Dorothee Kern, The Scripps Research Institute

The Protein Dance – from Experiments to AI Predictions

09:50 – 10:10 Szabolcs Bodizs, Uppsala University

Asymmetric hybrid state formation during phytochrome dark reversion reveals atom-scale control of the biliverdin dark reversion kinetics

10:10 – 10:30 Ajda Krc, Stockholm University

Structure and dynamics of the Complete 14-subunit Botulinum Neurotoxin B Complex

10:30 – 10:50 Coffee

10:50 – 11:10 Ane Metola, Stockholm University

Co-translational folding of a multidomain protein: de novo folding occurs through stabilization of an intermediate while global folding is delayed

11:10 – 11:30 Gabriel Ducrocq, Linköping University

CRYOSPHERE: Single-particle heterogeneous reconstruction from cryo-EM

11:30 – 11:50 Closing of meeting and award of prizes for best presentation and poster

12:00 – 13:00 Lunch + Departure
