

EBSA 2023

STOCKHOLM, SWEDEN
JULY 31 - AUGUST 4



PRELIMINARY PROGRAM EBSA Stockholm



Biophysics in Europe

13.00
15.30

Registration

15.30
16.00

Opening, Welcome

16.00
17.00

Plenary Speaker:
Molly Stevens, Imperial College London, Karolinska Institutet
Designing and translating new biomaterials to heal the body and detect diseases earlier
Session chairs - Daniel Aili & Nuno Correia Santos

17.00
17.15

Break

17.15
18.15

Honorary Plenary Speaker:
David Julius, University of California San Francisco (UCSF)
Structural insights into TRP channel gating: visualizing a polymodal signal integrator
Session chairs - Erik Lindahl & Charles R Sanders

18.15
19.30

Welcome Reception


Exhibition opening hours:
11:00-17:00



	Aula Magna A + B	Lecture hall 1	Lecture hall 2	Lecture hall 3
08.30 10.30	<p>Protein dynamics</p> <p>Session chairs - Mikael Akke & Pétur Orri Heiðarsson</p> <p>Lynn Kamerlin - Loop Dynamics and the Evolution of New Enzyme Functions Malene Ringkjøbing Jensen - Visualizing the multi-step folding trajectory of an intrinsically disordered scaffold protein upon binding to the small GTPase Rac1 Short talks Alexandra Teslenko, David Scheerer, Rafael Tapia-Rojo & Zhaowei Liu</p>	<p>Single-molecule biophysics</p> <p>Session chairs - Victoria Birkedal & Mike Heilemann</p> <p>Chirlmin Joo - SPARXS: Single-molecule Parallel Analysis for Rapid eXploration of Sequence space Julie Biteen - An experimental framework to assess phase separation in bacteria</p> <p>Short talks Annie Sahota, Jan Christoph Thiele, Sabine Straathof & Veronika Frank</p>	<p>Microfluidics and organ-on-a-chip for biophysics</p> <p>Session chairs - Pawel Sikorski & Bjørn Torger Stokke</p> <p>Tuomas Knowles - Kinetics of protein phase transitions Anna Herland - Combining Stem Cell and Device Engineering for In vitro Models of Human Physiology</p> <p>Short talks Aitor Manteca, Christina Tringides, Enrico Turato & Oliver Vanderpoorten</p>	<p>Biophysics of viruses</p> <p>Session chairs - Sarah Butcher & Nicola Abrescia</p> <p>Charlotte Utrecht - Flying viruses - mass spectrometry meets X-rays Pedro de Pablo - Physical Virology with atomic force and fluorescence microscopies: seeing and touching viruses and protein cages</p> <p>Short talks Carolina C. Buga, Daniel Ziemianowicz, Gyula Hoffka & Marta Bally</p>
10.30 11.00	Coffee and exhibition			
	Aula Magna A + B			
11.00 12.00	<p>Plenary Speaker: Lewis Kay, University of Toronto Structural biology After AlphaFold- What is left? NMR is the answer Session chairs - Mikael Akke & Elizabeth Meiering</p>			
12.00 13.30	Lunch Break			
	Aula Magna A		Aula Magna B	
13.30 14.15	<p>Syma Khalid Computational microbiology: a focus on bacterial cell envelopes Session chairs - Ilpo Vattulainen & Jesus Perez-Gill</p>		<p>Claus AM Seidel Integrative dynamic structural biology with multi-modal fluorescence spectroscopy and nanoscopy: From single molecules to live cells Session chairs - Victoria Birkedal & Mauro Dalla Serra</p>	
14.15 14.45	Coffee and exhibition			
	Aula Magna A	Aula Magna B	Lecture hall 2	Lecture hall 3
14.45 16.45	<p>Activation and modulation of membrane proteins</p> <p>Session chairs - Ville Kaila & John Seddon</p> <p>Vera Moiseenkova-Bell - Structural Pharmacology of TRPV channels Joachim Heberle - Watching ions moving across the biomembrane at utmost temporal and spatial resolution</p> <p>Short talks Adam Lange, Burkhard Bechinger, Maria Florencia Sánchez & Shreyas Kaptan</p>	<p>Intrinsically disordered proteins and liquid-liquid phase separations</p> <p>Session chairs - Ylva Ivarsson & Katherine Stott</p> <p>Richard Kriwacki - The Role of Phase Separation in Biology and Disease Katherine Stott How do different linker histones direct chromatin to liquid- or fibre-like states?</p> <p>Short talks Agustin Mangiarotti, Francesco Luca Falginella, Johanna Hultman & Sheung Chun Ng</p>	<p>Neutrons in Life Sciences and Biophysics</p> <p>Session chairs - Trevor Forsyth & Esko Oksanen</p> <p>Henning Tidow - Structural studies of integral membrane proteins using stealth carrier systems Hanna Barriga - Towards mapping the relationship between lipid nanoparticle structure and performance</p> <p>Short talks Andreas Stadler, Georg Pabst & Marie Lycksell</p>	<p>Protein design</p> <p>Session chairs - Aitziber L. Cortajarena & Ingemar André</p> <p>Sarel Fleishman - Design of enzyme repertoires Charlotte Deane - Modelling and comparing the binding sites of immune receptor proteins to enable design</p> <p>Short talks Anastassia Vorobieva, Francesco Antonio Aprile, Laura Perez Chirinos & Sara Fortuna</p>
16.45 19.00	Poster Session 1			

	Aula Magna A	Aula Magna B	Lecture hall 2	Lecture hall 3	
08.30 10.30	<p>Computational biophysics</p> <p>Session chairs - Ilpo Vattulainen & Himanshu Khandelia</p> <p>Helmut Grubmüller - Three routes to molecular movies Julia Yeomans - Mesoscale models of mechanobiology</p> <p>Short talks Forbes Burkowski, Lukáš Sukeník, Maryam Majdolphosseini & Maxim Igaev</p>	<p>Biophysics of RNA and ribosomes</p> <p>Session chairs - Katja Petzold, Giovanni Bussi & Maria Selmer</p> <p>Alan Chen - A tale of two riboswitches: How ligand binding alters RNA folding pathways in atomistic detail</p> <p>Short talks Ankush Singhal, Neva Caliskan, Ruchi Anand, Shreya Pundir, Suparna Sanyal, Valerio Piomponi & Vinoth Sundar Rajan</p>	<p>Bionanophotonics</p> <p>Session chairs - Haichun Liu & Artur Bednarkiewicz</p> <p>Hamid Dehghani - Applications of diffuse optics for detection and characterisation of disease</p> <p>Short talks Erik Olsén, Francesco Reina, Ivan N. Unksöv & Lucia Gardini</p>	<p>Molecular motors and machines</p> <p>Session chairs - Sebastian Deindl & Dea Slade</p> <p>Gijs Wuite - Nonlinear mechanics of human mitotic chromosomes Nynke Dekker - Adventures in DNA and chromatin replication using single-molecule biophysics</p> <p>Short talks Borja Ibarra, Line Mørkholt Lund, Stavros Azinas & Thomas C.R. Miller</p>	
10.30 11.00	Coffee and exhibition				
	Aula Magna A		Aula Magna B		
11.00 11.45	<p>Simon Scheuring</p> <p>High-speed atomic force microscopy captures conformational transitions and the kinetics of rare, transient conformational states</p> <p>Session chairs - Pierre Emmanuel Milhiet & Robert Gilbert</p>		<p>Harald Schwalbe</p> <p>NMR studies to support RNA targeting by small molecules</p> <p>Session chairs - Katja Petzold & Giovanni Bussi</p>		
11.45 14.00	Lunch break and Poster session 2				
	Aula Magna A + B				
14.00 15.00	<p>Plenary Speaker: Karen Fleming, Johns Hopkins University</p> <p>Chaperoning Unfolded Outer Membrane Proteins</p> <p>Session chairs - Lena Mäler & Jennifer Pesanelli</p>				
15.00 15.30	Coffee and exhibition				
	Aula Magna A + B		Lecture hall 1	Lecture hall 2	Lecture hall 3
15.30 17.30	<p>Protein structure and function</p> <p>Session chairs - Elisabeth Sauer-Eriksson & Lynn Kamerlin</p> <p>Laura Itzhaki - Engineering the folding and function of tandem-repeat proteins: Teaching old proteins new tricks Gilad Haran - The Secret Ultrafast Motions of Protein Nanomachines</p> <p>Short talks Darian Yang, Dominique Madern, Kristyna Pluhackova & Silvia Trigüis</p>		<p>Mechanobiology in health and disease</p> <p>Session chairs - Christelle Prinz & Christine Selhuber-Unkel</p> <p>Jochen Guck - High-throughput mechanical phenotyping for diagnostic applications Ada Calvalcanti-Adam - Receptor-mediated regulation of molecular and cellular mechanics</p> <p>Short talks Alejandro Jurado Jiménez, Christian Nehls, Daniel Aili & Poul Martin Bendix</p>	<p>Biophysics of the green transition</p> <p>Session chairs - Daniel Otzen & Doris Ribitsch</p> <p>Neel Joshi - Biologically fabricated materials from engineered microbes Ren Wei - Enzymatic Plastic Recycling and Upcycling: A Promising Strategy for Green Transition</p> <p>Short talks Caterina Medeot, Christofer Lendel, Mai Bay Stie & Miguel A. Soler</p>	<p>Biophysics in Industry and Biotech</p> <p>Biophysics in Industry and Biotech Session chairs - Elena Pohl & Pål Stenmark</p> <p>Malvern Panalytical Natalia Markova - Keeping up with the needs of interaction analysis and stability profilin</p> <p>Refeyn João Rosa - Mass photometry – an analytical technology for biomolecular characterization</p> <p>5 minutes short talk from all our exhibitors</p>
19.00 21.00	CITY HALL RECEPTION (Region Stockholm are hosting the Reception at City Hall)				

	Aula Magna A + B	Lecture hall 1	Lecture hall 2	Lecture hall 3
08.30 10.30	<p>Membranes and membrane proteins</p> <p>Session chairs - Gunnar von Heijne & Anthony Watts</p> <p>Camilo Perez - Mechanism of cell wall transporters and role in the adaptation of bacterial pathogens Irep Gözen - Membrane self-organization in flat land: Rise of the vesicles Short talks Agnes Koerfer, Christine Doucet, Luke Chao & Roberto Covino</p>	<p>Protein folding, assembly and disease</p> <p>Session chairs - Jan Johansson & Cláudio Gomes</p> <p>Tessa Sinnige - The biophysics of polyglutamine aggregation in a multicellular animal model Stefano Gianni - Folding of multi-domain proteins - folding intermediates, hidden kinetic traps and cryptic functional features Short talks Arantza Muguruza-Montero, Axel Abelein, Ismahene Mesbah & Sara Ribeiro</p>	<p>Biophysics of redox biology</p> <p>Session chairs - Giuseppe Filomeni & Elias Arnér</p> <p>Elena Papaleo - S-nitrosylation under the lens of molecular dynamics Graham George - Probing Toxic Metals and Metalloids in Redox Biology using Synchrotron X-rays Short talks Francesco Stellato, Giuseppe Filomeni, Michael Di Gioacchino & Tania Sousa</p>	<p>Bioenergetics and biological thermodynamics</p> <p>Session chairs - Karim Fahmy & Daumantas Matulis</p> <p>Daniel Harries - Macromolecular Crowding Beyond Hard-Core Repulsions Dorothee Kern - Aiming Higher – In Energy and Functional Understanding of Proteins Short talks Anais Biquet-Bisquert, Daniel Dornbusch, Joana V. Ribeiro & Kohki Okabe</p>
10.30 11.00	Coffee and exhibition			
	Aula Magna A + B			
11.00 12.00	<p>Plenary Speaker: Hao Wu, Harvard Medical School</p> <p>Inner workings of the inflammasome engine elucidated by cryo-EM</p> <p>Session chairs - Pål Stenmark & Marta Carroni</p>			
12.00 14.15	<p>Aula Magna 12.00-12.10</p> <p>Making confocal fluorescence microscopy a tool for every biophysicist - Isabel Gross</p>	Lunch Break and Poster session 3		
	Aula Magna A	Aula Magna B	Lecture hall 1	
14.15 15:00	<p>Ville Kaila</p> <p>Deciphering Long-Range Charge Transport Mechanisms of Biological Energy Transduction Session chairs - Elisabeth Sauer-Eriksson & Arwen Pearson</p>	<p>Julie Forman-Kay</p> <p>Regulating biochemical processes by modulating disordered protein phase separation Session chairs - Maria Sunnerhagen & Richard Kriwacki</p>	<p>Hendrik Dietz</p> <p>Virus traps and other molecular machines of the future Session chairs - Björn Högberg & Aitziber L Cortajarena</p>	
15.00 15:30	Coffee and exhibition			
	Aula Magna A	Aula Magna B	Lecture hall 1	Lecture hall 3
15.30 17.30	<p>Biophysics of biological barriers</p> <p>Session chairs - Jesus Perez Gil & Emma Sparr</p> <p>Ipo Vattulainen - Barriers that control life processes in the eye, lungs and brain Jonathan Brewer - Uncovering the Nanoscopic Molecular Pathway and Mechanism of Penetration Enhancement by Lipid-Based Nanoparticles in Human Skin Short talks Lucrezia Caselli, Lukasz Cwiklik, Maria J. Sarmiento & Nicky Tam</p>	<p>Self-organised and biomimetic systems</p> <p>Session chairs - Björn Högberg & Hendrik Dietz</p> <p>Ana Teixeira - Mapping and targetting membrane protein nanoenvironments Kerstin Göpfrich - Engineering a synthetic model cell with DNA nanotechnology Short talks Ioanna Smyrlaki, Johanna Utterström, Lukasz Piatkowski & Raviv Dharan</p>	<p>Novel methods for cell biophysics</p> <p>Session chairs - Jonas Tegenfeldt & Andreas Janshoff</p> <p>Vahid Sandoghdar - iSCAT: from detection of very small proteins to characterisation of extracellular vesicles and 3D imaging of cellular nanostructures Helena Knowles - Simultaneous nanorheology and nanothermometry using intracellular diamond quantum sensors Short talks Daniel Midtvedt, Guillem Marín-Aguilera & Soohyen Jang</p>	<p>Time-resolved structural biology</p> <p>Session chairs - Arwen Pearson & Gisela Brändén</p> <p>Ulrich Lorenz - Microsecond Time-Resolved Cryo-EM Henrike Mueller-Werkmeister - Multiscale time-resolved spectroscopy and serial crystallography for studies of protein dynamics Short talks Guillaume Mas, Luiz Schubert, Nandan Haloi & Sebastian Jaksch</p>
19:00	CONGRESS DINNER SOLLIDEN			

	Aula Magna A	Aula Magna B	Lecture hall 1	Lecture hall 3
09_00 11.00	<p>Supporting Biophysics – into the future!</p> <p>Sessions chairs - Martha Carroni & Göran Karlsson</p> <p>Janne Salo - European Research council: Funding for frontier research in Europe Annika Jensen - SciLifeLab and EMBL: Collaboration projects Jacques Jestin – ILL Neutrons for society: an update of specific applications in structural biology and biophysics Brinda Vallat – Disseminating Integrative and Hybrid Structures through PDB-Dev Harald Schwalbe – Instruct-ERIC: Current and future approaches and challenges</p>	<p>New and notable</p> <p>Session chairs: - Robert Gilbert & Maria Sunnerhagen</p> <p>Luke Chao - Ancestral sequence reconstruction exploration of the mitochondrial cristae junction Pernilla Wittung Stafshede - Amyloids of alpha-synuclein catalyze chemical reactions Sebastian Deindl - Massively multiplexed single-molecule fluorescence microscopy Dorothee Kern - Evolution at play – from primordial oscillators to AI-assisted substrate prediction Nicholas Pearce - Intuitively extracting structural dynamics from macromolecular disorder</p>	<p>Breakthrough methods in molecular biophysics</p> <p>Session chairs - Isabel Alves & Tomasz Kobiela</p> <p>Zdenek Lansky - Tau envelopes regulate access to microtubules Barbora Spackova - Label-free Microscopy for Investigation of Biomolecular Interactions at Single Molecule Level</p> <p>Short talks Cecile Feuillie, Giulio Bianchi, Helena Danielson & Taras Sych</p>	<p>50 Years of Pure and Applied Biophysics in Italy</p> <p>Session chairs - Mauro Dalla Serra & Velia Minicozzi</p> <p>Irene Farabella - Investigating genome plasticity at the nanoscale</p> <p>Short talks Armando Carpaneto, Elena Ferraguzzi, Lorenzo Stella, Mauro Manno, Sajedah Kerdegari & Tomaso Zambelli</p>
11.00 11.30	<p>Coffee with celebratory cake sponsored by SIBPA</p> 			
	<p>Aula Magna A+B</p>			
11.30 12.30	<p>Plenary Speaker: Thorsten Wohland, National University Singapore Fluorescence Correlation Spectroscopy as a tool in developmental biology: Morphogen dynamics and interactions in live zebrafish embryos Session chairs - Jerker Widengren & Manuel Prieto</p>			
12.30 13.40	<p>Lunch break</p>			
13.40 14.30	<p>Award lectures: EBSA Young Investigator and Avanti Lipid Prize recipients Poster and Talk awards</p>			
14.30 15.00	<p>Closing Ceremony Introducing the EBSA Congress in Rome 2025</p>			