



**15th European
Biophysics
CONGRESS**

30 June – 4 July 2025

SCIENTIFIC PROGRAM

MONDAY, JUNE 30

12:15 - 14:30	EBSA-EC meeting #1 (Delegates only), Hall 6
14:45 - 16:45	Registration
17:00 - 17:30	Institutional Welcome Address
17:30 - 18:30	OPENING LECTURE, Aula Magna Sponsored by BPS <i>Chairs: Jennifer Pesanelli (USA), Velia Minicozzi (Italy)</i> Tomaso Poggio, USA Science and Engineering: the race to understand intelligence
18:30 -	Welcome Cocktail



TUESDAY, JULY 1

8:30 – 10:30	17 MOLECULAR MODELING AND SIMULATION, Aula Magna <i>Chairs: Syma Khalid (UK), Gianluca Lattanzi (Italy)</i>
	<p>Invited talks</p> <p>Siewert J. Marrink, Netherlands Perspective on simulating whole cells with Martini</p> <p>Jonathan Essex, UK Multiscale modelling combining atomistic and coarse-grained molecular simulations with low-resolution SAXS data: a route to the rational engineering of antibody structure and function</p> <hr/> <p>Short talks</p> <p>Gil Olgenblum, Israel Mechanism of Protein Stabilization by Sugars in Crowded Solution and Preservation in Desiccated Glass</p> <p>Ksenia Korshunova, Finland Rab21 GTPase and its interaction with cell membrane: Computational study of post-translational modifications</p> <p>Domenico Scaramozzino, Sweden An efficient coarse-grained method to unravel conformational pathways in large proteins and protein-nucleic acid complexes</p> <p>Gianfranco Bocchinfuso, Italy Exploring Protein Conformational Transitions in the Second Timescale through Multiscale Molecular Dynamics: The Case of SHP2 Activation</p>
8:30 – 10:30	15 SELF-ASSEMBLY IN LIFE SCIENCE, Hall 1 <i>Chairs: Nuno C. Santos (Portugal), André Matagne (Belgium)</i>
	<p>Invited talks</p> <p>Jean-François Collet, Belgium Assembling the outer membrane of Gram-negative bacteria</p> <p>Sandra Macedo-Ribeiro (Portugal) Allosteric modulators of protein self-assembly: clues for therapeutic approaches in SCA3</p>

	<p>Short talks</p> <p>Daniel Otzen, Denmark Molecular structure and self-assembly in functional amyloid</p> <p>Ewelina Lindbladh, Sweden On the Self-Assembly of the Molecular Chaperone αB-Crystallin</p> <p>Roi Asor, UK Oligomerisation-driven avidity correlates with SARS-CoV-2 cellular binding and inhibition</p> <p>Kristyna Pluhackova, Germany Beyond Phosphorylation: How PIP2 Lipids Sculpt β2-Adrenergic Receptor-β-Arrestin Complexes</p>
8:30 – 10:30	<p>12 CELLULAR BIOPHYSICS IN DISEASES (CANCER, RARE DISEASES, INFECTIOUS DISEASES), Hall 2 <i>Chairs: Laszlo Matyus (Hungary), E. Ada Cavalcanti-Adam (Germany)</i></p> <p>Invited talks</p> <p>Gyorgy Panyi, Hungary Molecular pathology of ion channels in diseases and their pharmacological targeting</p> <p>Josef Käs, Germany The metastatic cascade- does oncology need the physics of cancer?</p>
	<p>Short talks</p> <p>Dehours Cloé, France Stiff matters for the genome: extracellular matrix rigidity and DNA repair dynamics in cancer</p> <p>Kamil Ziaja, Italy Elevated Pressure Modulates Glioblastoma and Astrocyte Responses: Insights from Flow-Based Cell Model.</p> <p>Domenico Caudo, Italy Robust assessment of asymmetric division in colon cancer cells</p> <p>Dario Conca, Sweden Variant-Specific Interactions at the Plasma Membrane: Heparan Sulfate's Impact on SARS-CoV-2 Binding Kinetics</p>

TUESDAY, JULY 1

8:30 – 10:30	20 X-RAY AND NEUTRON TECHNIQUES IN BIOPHYSICS, Hall 3 <i>Chairs: Maria Grazia Ortore (Italy), Martin Weik (France)</i>
	Invited talks Thomas J Lane , Germany Time-resolved crystallography captures light-driven DNA repair Marité Cardenas , Spain Lipoprotein structure and its role on dysfunction: from atherosclerosis to covid-19
	Short talks Mark Tully , France How do plants sense temperature? Nanostructure characterization of biological hydrogels formed by the prion-like domain EARLY FLOWERING 3 using SAXS Francesco Stellato , Italy Metal Ions in Amyloid- β Misfolding and Aggregation: an X-ray Journey from Static Structures to Dynamic Processes Uri Raviv , Israel Structures, Energetics, and Dynamics of Active Tubulin Self-Organization Lukas Gajdos , France Neutron crystallography of <i>Pseudomonas aeruginosa</i> lectins LecA and LecB: Insights into carbohydrate recognition
10:30 – 11:15	Coffee Break
11:15 – 12:15	PLENARY LECTURE, Aula Magna <i>Chairs: John M. Seddon (UK), Valentina Mussi (Italy)</i> Arwen Pearson , Germany Pushing the boundaries of macromolecular crystallography: time-resolved and perturbative methods to study protein structure-function-dynamics relationships
12:15 - 14:45	Lunch Break & Poster Session 1
12:15 - 13:15	President Meeting (National Delegates only) Hall 1

TUESDAY, JULY 1

14:45 – 16:45	05 BIOPHYSICS OF BIOLOGICAL BARRIERS: MEMBRANE STRUCTURE AND ORGANIZATION, Aula Magna <i>Chairs: Gregor Anderluh (Slovenia), Lorenzo Stella (Italy)</i>
	<p>Invited talks</p> <p>Ilya Levental, USA Novel dimensions of living membrane asymmetry</p> <p>Sebastien Mongrand, France News insights on plant plasma membrane lipids to understand regulation of homeoviscosity during temperature fluctuation</p>
	<p>Short talks</p> <p>Dmitrii Linnik, Netherlands Structural and functional implications of in vivo phase separation of membrane protein in in Escherichia coli</p> <p>Veronika Dzipponova, UK Understanding the forces transmitted to the outer membrane during bacteriocin import</p> <p>Matilde Accorsi, Germany Sprouting vesicles and far-reaching nanotubes: a journey to lipid networks</p> <p>Rainer A. Böckmann, Germany The Multi-faceted Role of Cholesterol in Cellular Membranes and Lipid Nanoparticles</p>
14:45 – 16:45	28 NEW AND NOTABLE, Hall 1 <i>Chairs: Anthony Watts (UK), Elena Pohl (Austria)</i>
	<p>Invited talks</p> <p>Maria Garcia Alai, Germany Contemporary Interactive Tools for the Analysis of Biophysical Data Across Techniques</p> <p>Achillefs Kapanidis, UK Spatial organisation of bacterial transcription via phase separation of transcription factors</p>

	<p>Short talks</p> <p>Arthur Felker, Germany A versatile toolbox for nanoscale interrogation of multi-protein assemblies in living cells</p> <p>Jana Susanne Anton, Switzerland Structural characterization of aerolysin in a membrane-like environment</p> <p>Elena Ambrosetti, Italy Characterization of nanoscale protein clusters at the cell membrane with DNA nanotechnology: an innovative tool to define a novel paradigm in oligomerization of membrane receptors</p> <p>Jaroslav Jacak, Austria Multiphoton Lithography Scaffolds for Time-Resolved Mesenchymal Stem Cells Differentiation Studies at the Molecular Level</p>
14:45 – 16:45	<p>18 ADVANCED MICROSCOPY TECHNIQUES (BRILLOUIN, CRYOEM, HS-AFM, ...), Hall 2 <i>Chairs: Giuliano Scarcelli (USA), Silvia Caponi (Italy)</i></p> <p>Invited talks</p> <p>Kareem Elsayad, Austria Measuring transient changes in mechanical properties during biological processes</p> <p>Stephanie Möllmert, Germany Across Scales and Systems: Mechanical Signatures in Retina, Spinal Cord, and Mucus</p>
	<p>Short talks</p> <p>Nicolò Incardona, Italy Multimodal characterization of biological samples through label-free and fluorescence microscopy</p> <p>Claudia Testi, Italy Brillouin Microscopy reveals altered biomechanics in Kabuki Syndrome murine bone tissues</p> <p>Changjiang You, Germany Long-term single molecule localization microscopy uncovers dynamic co-assembly of LRP6 and ROR2 into Wnt-signalosomes</p> <p>Marta Rubio-Huertas, Denmark Visualizing Permeation Enhancement of the Intestinal Epithelium Using Label-Free Live-Cell Coherent Anti-Stokes Raman Scattering (CARS) Microscopy</p>

TUESDAY, JULY 1

14:45 – 16:45	11 BIOPHYSICAL MECHANISMS OF BRAIN PLASTICITY: FROM MOLECULAR DYNAMICS TO NETWORK ADAPTATION IN LEARNING AND MEMORY, Hall 3 <i>Chairs: Marja-Leena Linne (Finland), Ausra Saudargiene (Lithuania)</i>
	<p>Invited talks</p> <p>Arnd Roth, UK Synaptic input patterns received by dendrites during sensory processing</p> <p>Avrama Blackwell, USA Signaling Pathways underlying Striatal Synaptic Plasticity</p>
	<p>Short talks</p> <p>Risa Yamada, Japan Multi-component phase separation of postsynaptic density is controlled by membrane geometry via valency and volume effects</p> <p>Marianna Angiolelli, Italy How Criticality shapes structure-function relationships and human brain dynamics</p> <p>Tuomo Mäki-Marttunen, Finland Biochemically detailed modelling reveals genetic mechanisms for impaired synaptic plasticity in schizophrenia</p> <p>Isabel Alves, France Membrane lipid poly-unsaturation selectively affects Dopamine D2 receptor signaling</p>
16:45 – 17:30	Coffee Break
17:30 – 18:30	<p>PLENARY LECTURE, Aula Magna Sponsored by IUPAB <i>Chairs: Christina Sizun (France), Nuno C. Santos (Portugal)</i></p> <p>María Soledad Celej, Argentina Phase transitions of Tau and α-synuclein: implications for overlapping neuropathologies</p>

WEDNESDAY, JULY 2

8:30 – 10:30	02 PROTEIN AGGREGATION IN DISEASE: THE NEXT PHASE, Aula Magna <i>Chairs: Elizabeth Meiering (Canada), Annalisa Pastore (UK)</i>
	<p>Invited talks</p> <p>Mei Hong, USA Deconstructing and reconstructing tau by solid-state NMR</p> <p>Hilal Lashuel, Switzerland Protein post-translational modifications: markers or pathology or master regulators of amyloid formation and pathogenicity</p>
	<p>Short talks</p> <p>Siân C. Allerton, UK Molecular Rotors Detect the Formation and Conversion of α-Synuclein Oligomers</p> <p>Anthony Legrand, Czech Republic Revealing the mechanism of inhibition of Amyloid-β aggregation and membrane perforation by Apolipoprotein E through kinetic analysis</p> <p>Venus Singh Mithu, Germany How pH and Membranes Shape hIAPP Amyloid Fibril Structure in Type 2 Diabetes</p> <p>Fabrizio Chiti, Italy Structural convergence determined by physicochemical principles in the complex polymorphism of the amyloid state of proteins</p>
8:30 – 10:30	21 NMR: TOWARDS CELL PROCESS CHARACTERIZATION, Hall 1 <i>Chairs: Miquel Pons (Spain), Maria Sunnerhagen (Sweden)</i>
	<p>Invited talks</p> <p>Bjorn Burmann, Sweden Bacterial OMVs as novel tools for the in-situ characterization of bacterial envelope proteins</p> <p>Irene Diaz-Moreno, Spain Biomolecular Condensates: Illuminating a Novel Source of Cellular Order Emerging from Molecular Disorder in Health and Disease</p>

Short talks

Morwenna Hall, UK

RhoB: an unstable G protein mutated in bladder cancer

Miriam Simma, USA

Defining the Lipid Specificities of Saposin Lipid Transfer Proteins

Jakob Schneider, Austria

Protein dynamics in mitochondrial biogenesis - Structural insights into Tom70-mediated protein translocation

Anirban Ghosh, Czech Republic

Fluorine-detected NMR for resolving Non-Canonical Nucleic Acid folding, conformational polymorphism, and ligand binding interactome in vitro and in-cellular environment

8:30 – 9:30

19 | TEACHING BIOPHYSICS IN 2025 AND BEYOND, Hall 2

Chairs: Mark Wallace (UK), Coralie Bompard (France)

Invited talks

Pietro Cicuta, UK

Teaching biology to physicists, and viceversa

Gianluca Lattanzi, Italy

Between Physics and Biology: Teaching Computational Biophysics Across Disciplines

Frank Gabel, France

Teaching biophysics in 2025: a focus on neutron scattering from biological systems

9:30 – 10:30

29 | MOSBRI SPECIAL SYMPOSIUM, Hall 2

Chairs: Francesca Cutruzzolà (Italy), Patrick England (France)

Invited talks

Jan Dohnalek, Czech Republic

Molecular Biophysics Database of raw data - MBDB

Bertrand Raynal, France

A short journey through the research activities of the MOlecular-Scale Biophysics Research Infrastructure (MOSBRI)

Francesca Cutruzzolà, Italy & **Patrick England**, France

The MOlecular-Scale Biophysics Research Infrastructure (MOSBRI) transnational initiative: overview of major activities and results

WEDNESDAY, JULY 2

8:30 – 10:30	14 BIOMATERIALS AND 3D BIOPRINTING, Hall 3 <i>Chairs: Shery Huang (USA), Loredana Casalis (Italy)</i>
	Invited talks Marcy Zenobi-Wang , Switzerland The space within: Engineering scaffold voids to advance tissue regeneration Andrew Daly , Ireland 4D Bioprinting Shape-Morphing Tissues in Granular Support Hydrogels: Sculpting Structure and Guiding Maturation
	Short talks Julia Shifman , Israel Mapping binding landscapes of Ras-effector interactions in health and disease Martynas Gavutis , Lithuania Properties and application of sparsely tethered bilayer lipid membranes Stelian Arjoca , Romania Refining Extrusion-Based Bioprinting Through Hydrogel Flow Rate And Extrusion Speed Measurements Paolo Blesio , Spain Conductive protein-based biomaterials: from the design to the application
10:30 – 11:15	Coffee Break
11:15 – 12:15	PLENARY LECTURE, Aula Magna <i>Chairs: Maria Sunnerhagen (Sweden), Robert Gilbert (UK)</i> Lucia Banci , Italy In-cell NMR: a powerful approach for understanding functional processes
12:15 – 14:45	Lunch Break & Poster Session 2 EBJ Meeting Hall 5; Company Meeting Hall 2
12:15 - 13:00	EBJ Open Meeting Hall 5
13:00 - 14:45	EBJ Closed Meeting Hall 5
12:30 - 14:30	Company Meeting Hall 2

14:45 – 16:45	04 BIOPHYSICS AND FUNCTION OF PROTEIN/PEPTIDE-MEMBRANE INTERACTIONS, Aula Magna <i>Chairs: Matthias Buck (USA), Nathalie Reuter (Norway)</i>
	<p>Invited talks</p> <p>Kalina Hristova, USA Biophysics of growth factor receptor signaling in the membrane</p> <p>Reidar Lund, Norway Mechanism(s) of antimicrobial peptides: what can we learn from x-ray & neutron scattering techniques?</p>
	<p>Short talks</p> <p>Sarah Crocoll, Germany Membrane Interactions of Daptomycin: A Comparative Study with a Novel Cyclic Lipopeptide</p> <p>David Valdivieso González, Spain Rotation movement of ATP synthase as membrane remodelling effector</p> <p>Robert Vacha, Czech Republic Design Guidelines for Antimicrobial Peptides that Kill Antibiotic-Resistant Bacteria via Transmembrane Pores</p> <p>Fabio Lolicato, Germany Molecular mechanism of membrane pore formation triggered by PI(4,5)P₂-dependent FGF2 oligomerization</p>
14:45 – 16:45	23 BIONANOPHOTONICS AND SINGLE MOLECULE FLUORESCENCE, Hall 1 <i>Chairs: Erwin Peterman (Netherlands), Giancarlo Ruocco (Italy)</i>
	<p>Invited talks</p> <p>Francesca Cella Zanacchi, Italy Single-molecule localization microscopy to study chromatin organization during cells differentiation on specific substrates</p> <p>Francisco Balzarotti, Austria TBA</p>

	<p>Short talks</p> <p>Jan-Philipp Günther, Switzerland Disordered Regions Speed Up Diffusive Search of Proteins on DNA</p> <p>Sabrina Zappone, Italy Fluorescent aptamer-based detection of the NEAT1 short isoform in paraspeckles</p> <p>Jiri Kratochvil, UK When surface nanoengineering meets mass photometry: Quantification of weak protein interactions</p> <p>Veronika Frank, Germany Ultrafast Molecule-Spanning Dynamics in a Multi Domain Protein Uncovered and Quantified by Single-Molecule Fluorescence</p>
14:45 – 16:45	<p>09 CELL COMMUNICATION: MEMBRANE TRANSPORT & ION CHANNELS, Hall 2 <i>Chairs: Teresa Giraldez (Spain), Micheal Pusch (Italy)</i></p> <p>Invited talks</p> <p>Crina Nimigean, USA Mechanism of propofol inhibition of HCN1 channels</p> <p>Antonios Pantazis, Sweden 192 conformations, or: regulation of CaV2.1 by the membrane potential</p>
	<p>Short talks</p> <p>Peter Rory Hall, UK Decoding TASK Channel Function with Cryo-EM: Structural Basis of pH Sensitivity, Disease, and Therapeutic Targeting</p> <p>Atiyehsadat Sharifzadeh, Italy Animal-free recombinant nanobody rescues HCN4 channel deficit in sinus node dysfunction</p> <p>María Navarro Pérez, Spain Deciphering Kv1.3 Spatial Organization at the Immunological Synapse of Human T Cells</p> <p>Sofia Oliveira, UK How can nonequilibrium MD simulations help understand drug resistance and allostery in proteins?</p>

WEDNESDAY, JULY 2

14:45 – 16:45	25 SYNTHETIC BIOLOGY AND ASTROBIOLOGY, Hall 3 <i>Chairs: Claudia Bonfio (UK), Sheref Mansy (Italy & Canada)</i>
	Invited talks Tina Lebar , Slovenia Homology-guided engineering of tyrosine recombinase nucleotide specificities Petra Schwille , Germany Why is it so complex to simplify cells?
	Short talks Fatma Mihoubi , UK Compositional and functional diversity of minimal primitive coacervates in a nucleic acid-peptide world Fahmy Karim , Germany The plasma membrane lipidome governs the metabolic cost of cell division in synthetic minimal cells Pedro Moreira , Portugal Computational design of monobody binders to target viral therapeutical epitopes Valerio Guido Giacobelli , Czech Republic Ancient Protein Folds with a Reduced Primordial Amino Acid Alphabet
16:45 – 17:30	Coffee Break
17:30 – 18:30	PLENARY LECTURE, Aula Magna <i>Chairs: Valeria Militello (Italy), László Mátyus (Hungary)</i> Alberto Diaspro , Italy The molecular artificial optical microscope. A route for combining molecular content fluorescence and label-free optical microscopy with machine learning
18:30	General Assembly Aula Magna

THURSDAY, JULY 3

8:30 – 10:30	01 THE NEW AGE OF PROTEIN STRUCTURE, PREDICTION AND DESIGN, Aula Magna <i>Chairs: Bruno Correia (Switzerland), Alena Khmelinskaia (Germany), John Kuriyan (USA), Ora Schueler-Furman (Israel)</i>
	Invited talks Tanja Kortemme , USA De novo protein design: from new structures to programmable molecular and cellular functions Possu Huang , USA SHAPES of protein generative models
	Short talks Elise Komarczuk , Switzerland DEER Spectroscopy as a Tool to Investigate Protein Conformations in Biomolecular Condensates – Challenges and Insights Juan Martín Hernández Castillo , Mexico Searching for Structural Transitions in a Parallel Protein Network Marco Lolicato , Italy Resurrecting and Characterizing Ancestral K2P channel Sequences to Decipher Response to Physical and Chemical Cues Zeynep Aslihan Durer , Turkey Understanding the Conformational Dynamics of the Metavinculin Tail: An Integrative SAXS and Modeling Approach
8:30 – 10:30	24 NANOTECHNOLOGY AND NANOSCALE PORES: ADVANCES AND APPLICATIONS IN BIOPHYSICS AND BEYOND, Hall 1 <i>Chairs: Giovanni Maglia (Netherlands), Chan Cao (Switzerland)</i>
	Invited talks Mauro Chinappi , Italy Electrohydrodynamic coupling in nanopore systems Chan Cao , Switzerland Biological nanopores for single-molecule sensing and sequencing

Short talks

Alberto Giacomello, Italy

Designing Bioinspired hydrophobically gated memristive nanopores for neuromorphic applications

Ajit Seth, India

Cholesterol modulated assembly of graphene oxide nanoflakes around a phospholipid monolayer at air-water interface

Gerard Carrera i Cardona, Belgium

Hanging Drop Bilayers: a novel platform for simultaneous optical and electrical observation of bilayers

Michel Mom, Germany

A Computational Study on the Detection of Citrulline Modifications Using an Aerolysin Nanopore

8:30 – 10:30

10 | SINGLE-CELL BIOPHYSICS: TECHNIQUES AND FINDINGS IN SINGLE-CELL ANALYSIS AND ITS IMPLICATIONS FOR UNDERSTANDING CELLULAR HETEROGENEITY, Hall 2

Chairs: Pierre-Emmanuel Milhiet (France), Suckjoon Jun (USA), Antonella Battisti (Italy)

Invited talks

Pietro Cicuta, UK

Improvements in single cell imaging at high throughput shed new light on AMR in bacteria

Bianca Sclavi, France

Mechanisms of cell cycle dependent gene expression in *Escherichia coli*

Short talks

Hamed Karimi, Estonia

FITSA: A Robust Bayesian Method for Analysis of Detected Photons in Single-Molecule Measurements

Simone Civita, Italy

Single-Molecule and Multiscale Fluorescence Imaging to Investigate PD-L1 Dynamics and its Association with Lipid Rafts in Non-Small Cell Lung Cancer Cells

Cenk Gurdap, Sweden

High-throughput biophysical measurements of cells in health and disease

Lorenzo Di Rienzo, Italy

Computational approaches to assess biomolecular interfaces compatibility: exploring its implications in molecular design

THURSDAY, JULY 3

8:30 – 10:30	26 POWERING LIFE: PHOTOSYNTHESIS AND RESPIRATION, Hall 3 <i>Chairs: Roberta Croce (Netherlands), Petra Hellwig (France)</i>
	Invited talks Wojciech Wietzyński , Switzerland Correlative light and electron microscopy reveals structural rearrangements of photosynthetic membranes in changing light Pia Adelröth , Sweden The branched respiratory chains of Mycobacteria
	Short talks Erik Endres , Finland Energetics and conformational dynamics of histidine switch in respiratory complex I probed by enhanced sampling simulations Gianluca Parisse , Italy Rate-Determining Protein Functions in Photosynthetic Oxygen Evolution: Insights from D1-N298A Photosystem II Variant Eduard Elias , Netherlands Thriving in the shade of the shade: How different species of acaryochloris adapt to differing levels of light limitation Pilar C. Portela , Portugal <i>Young Biophysicist Prize - Portuguese Biophysical Society</i> Widespread extracellular electron transfer pathways for charging microbial cytochrome OmcS nanowires via periplasmic cytochromes PpcABCDE
10:30 – 11:15	Coffee Break
11:15 – 12:15	PLENARY LECTURE, Aula Magna <i>Chairs: Coralie Bompard (France), Mark Wallace (UK)</i> Hagan Bayley , UK Engineered nanopores: from gene sequencing to organ repair
12:15 - 14:45	Lunch Break & Poster Session 3
12:30 - 13:30	Meet the Editors in Chief and Senior Editor of Protein Science Hall 1
13:30 - 14:30	ERC Info Session: Dagmar Floeck (ERC officer) Hall 2
12:15 - 14:45	IUPAB Meeting (Delegates only) Hall 5

THURSDAY, JULY 3

14:45 – 16:45	27 BREAKTHROUGH METHODS IN MOLECULAR SCALE BIOPHYSICS, Aula Magna <i>Chairs: Tomasz Kobiela (Poland), Barbara Zambelli (Italy)</i>
	<p>Invited talks</p> <p>Elisabetta Mileo, France Exploring Protein Folding and Interactions in Native Cellular Contexts Using Site-Directed Spin Labeling coupled to EPR spectroscopy</p> <p>Ben Schuler, Switzerland Probing the interaction dynamics of disordered proteins with single-molecule spectroscopy</p>
	<p>Short talks</p> <p>Philipp Willmer, Denmark In-Solution Binding Kinetics – The Full Picture of Biomolecular Interactions</p> <p>Marco Buscaglia, Italy Weak-cooperative binding of long single-stranded DNA to surface-immobilized oligomers for optimal detection by microarray biosensor</p> <p>Seham Helmi, UK Programmable DNA-origami-based platform for label-free protein profiling</p> <p>Kristina Elersic Filipic, Slovenia The Three-Molecule Binding Problem in SPR</p>
14:45 – 16:45	06 BIOGENIC NANOPARTICLES AND BIOMIMETIC SYSTEMS: NANOTECHNOLOGY FROM NATURE, Hall 1 <i>Chairs: Antonella Bongiovanni (Italy), Mauro Manno (Italy)</i>
	<p>Invited talks</p> <p>Paolo Arosio, Switzerland The physico-chemical landscape of extracellular vesicles</p> <p>Marca Wauben, Netherlands Nanosized Extracellular Vesicles (EVs) as gatekeepers of homeostasis: Deciphering cargo-function relationships</p>

Short talks

Guillaume Gilliard, Italy

Breast cancer extracellular vesicles: structural profiling and membrane interaction studies

Ester Canepa, Ireland

Single-particle analysis reveals a breakthrough approach for uniform fluorescent labeling of biomolecular corona nanoparticles

Lucrezia Caselli, Italy

Hybrid Biogenic Lipid Nanoparticles: leveraging hybridization with Extracellular Vesicles for enhancing biocompatibility and targeting efficiency

Silvia Caponi, Italy

Correlative Brillouin and Raman spectroscopy (BRMS)

14:45 – 16:45

08 | CELL MECHANICS: BIOPHYSICS OF CELL GROWTH, DIVISION, SIGNALING, AND MOTION, Hall 2

Chairs: Massimo Vassalli (UK), Valentina Mussi (Italy)

Invited talks

Marina Kuimova, UK

Measuring membrane viscosity using FLIM and molecular rotors

Carlos Perez Gonzalez, France

Mechanobiology of the intestinal epithelium in homeostasis and cancer

Short talks

Navoneel Sen, UK

Guardians of the Sarcomere: The Role of Molecular Chaperones in Maintaining Cardiac Function

Andrea Mescola, Italy

A benzodiazepine-derived molecule (1g) as a Biophysical Modulator of Glioblastoma: Impact on Cell Stiffness and Invasion.

Eike Wienbeuker, Germany

Resolving the nanoscale axial organization of transmembrane signaling complexes in live cells by metal-induced energy transfer

Giulia Senesi, Italy

Single Molecule Analysis of the Interaction Between the Tight Junctional Protein zo-1 and actin

THURSDAY, JULY 3

14:45 – 16:45	22 VIBRATIONAL SPECTROSCOPIES IN BIOPHYSICS, Hall 3 <i>Chairs: Christoph Krafft (Germany), Małgorzata Barańska (Poland)</i>
	Invited talks Katsumasa Fujita , Japan Raman spectroscopy and microscopy of cryofixed biological samples Oxana Klementieva , Sweden Advancing Vibrational Spectroscopy: In Situ, Time-Resolved Imaging for Structurally Complex Systems Csilla Gergely , France Broadband coherent anti-Stokes Raman scattering (BCARS), a powerful spectroscopy combining high signal intensity with spectral sensitivity for vibrational imaging of biological systems
	Short talks Carolin Feid , Germany Mapping Vibrational Energy Transfer in the Green Fluorescent Protein Antonia Intze , Italy Effect of RNA on the supramolecular architecture of α -synuclein fibrils Federica Piccirilli , Italy Application of cutting-edge IR and THz techniques to dipeptides superassemblies: how chirality shapes the fine architecture and flexibility of Phe-Phe nanotubes
16:45 – 17:30	Coffee Break
17:30 – 18:30	PLENARY LECTURE, Aula Magna <i>Chairs: Elizabeth Meiering (Canada), Roland Netz (Germany)</i> Patricia Clark , USA New tools for understanding the impact of the cellular environment on protein folding
20:00	Conference Dinner

FRIDAY, JULY 4

8:30 – 10:30	03 BUILDING BLOCKS OF LIFE: PROTEIN-BASED MATERIALS AND SUPRA-MOLECULAR ASSEMBLIES, Aula Magna <i>Chairs: Aitziber Lopez Cortajarena (Spain), Daniel Otzen (Denmark)</i>
	<p>Invited talks</p> <p>Silvia Marchesan, Italy The role of water: a playground for peptide self-assembly</p> <p>Raz Jelinek, Israel Functional amyloids as catalysts: towards new paradigms in chemistry and biology?</p> <hr/> <p>Short talks</p> <p>Therese Herling, UK Peptide self-assembly enables design of long-acting therapeutics</p> <p>Gabriela Guedes, Spain Engineering Protein-Stabilized Metal Nanomaterials as Theranostic Agents</p> <p>Shah Ekramul Alom, Sweden Functionalizing Protein nanofibrils into luminescent materials via mechanochemistry and self-assembly</p> <p>Anna Tarakanova, USA Modeling elastin's structure, assembly and function across length scales</p> <p>Zahraa Khalil, France Protein self assembly and influence of the surfaces: insights from a protein inspired by a natural amyloid adhesive</p>
8:30 – 10:30	16 MACHINE LEARNING AND AGENT-BASED MODELS, Hall 1 <i>Chairs: Matej Praprotnik (Slovenia), Helmut Grubmüller (Germany)</i>
	<p>Invited talks</p> <p>Lars Bock, Germany Combining Simulations and Machine Learning with Experiments to Explore Ribosomal Translation</p> <p>Erik Lindahl, Sweden Generative models to resolve ligand binding in cryo-EM structures</p>

	<p>Short talks</p> <p>An Mei Daniels, UK Study of adaptive morphogenesis using microfluidics and deep learning object detection</p> <p>Barbara Bravi, UK Benchmarking Machine Learning-based Causal Discovery Methods for Partially Observed Biochemical Kinetics</p> <p>Greta Grassmann, Italy Compact assessment of protein surface complementarities enhances neural network-aided identification of core interacting residue pairs</p> <p>Nicole Luchetti, Italy Unfolded Protein Response: Phylogenetic and Pathophysiological Insights from Protein-Protein Interaction Networks</p>
8:30 – 10:30	<p>07 BIOPHYSICS OF GENES, RNA AND RIBOSOMES, Hall 2 <i>Chairs: Norbert Polacek (Switzerland), Gabriella Viero (Italy)</i></p>
	<p>Invited talks</p> <p>Joseph Puglisi, USA Biophysics of translational fidelity</p> <p>Mattia Pelizzola, Italy Dynamics of transcriptional regulation: the hidden life of RNAs</p>
	<p>Short talks</p> <p>Ayesha Kabir, India Molecular Recognition of G-Quadruplex by Spermine and its Analogue 1 Naphthyl Acetyl Spermine: A Thermodynamic and Biophysical Investigative Approach</p> <p>Jack Tait, Netherlands Calmodulin is an essential chaperone for co-translational folding of the Kv7.2 ion channel</p> <p>Koichiro Maki, Japan Single-stranded DNA-based molecular complex contributes to structural maintenance of nucleolus</p> <p>Emma Lalande, UK In vivo single-molecule FISH for RNA detection in live Escherichia coli cells</p>

FRIDAY, JULY 4

8:30 – 9:30	13 BIOPHYSICS OF IONIC LIQUIDS: A VERSATILE TOOLKIT FOR MOLECULAR TO CELLULAR CONTROL AND BIOMEDICAL INNOVATION, Hall 3 <i>Chair: Antonio Benedetto (Italy & Ireland)</i>
	Invited talk Sajal Ghosh , India Cholesterol restricted assembly of ionic liquids in a phospholipid membrane
	Short talks Holly Linford , Ireland Modulating cancer cell migration and elasticity with ionic liquids Venus Singh Mithu , India Ionic Liquids and Biomembranes: A Toxic Affair
9:30 – 10:30	30 AT THE HEART OF BIOPHYSICS: THE ENDURING LESSON OF MARIO AGENO, Hall 3 <i>Chairs: Ranieri Bizzarri (Italy), Paolo Calligari (Italy)</i>
	Invited talks Ranieri Bizzarri , Italy The origin of chirality and stereospecific recognition in life Antonino Cattaneo , Italy The scientific heredity of Mario Ageno
10:30-11:15	Coffee Break
11:15 – 12:15	PLENARY LECTURE, Aula Magna <i>Chairs: Helmut Grubmüller (Germany), Gabriella Viero (Italy)</i> Sheref Mansy , Italy & Canada Towards chemical systems capable of Darwinian evolution
12:15 – 13:30	Lunch Break
12:15 – 13:30	EBSA EC Meeting 2 Hall 6 (Delegates only)

FRIDAY, JULY 4

13:30 – 16:00	Award lectures, Aula Magna
13:30-13:45	Poster Awards <i>Chairs: Maria Sunnerhagen (Sweden), Antonella Battisti (Italy)</i>
13:50-14:10	EBSA Young Investigator and Prize for 2025 <i>Chairs: Arwen R. Pearson (Germany), André Matagne (Belgium)</i> Miguel Mompeán , Spain <i>For his pioneering methodologies integrating solution and solid-state NMR, enabling atomic-level insights into intrinsically disordered proteins and their transition to amyloid fibrils</i> Insights into the Early Stages of Necrosome Assembly via Integrative NMR Approaches
14:10-14:40	EBSA/NanoTemper Award for 2025 <i>Chairs: Elena Pohl (Austria), Pierre-Emmanuel Milhiet (France)</i> Daniel J. Müller , Switzerland <i>For his innovative development of nanoscale biophysical methods and their application to uncovering fundamental biological processes</i> Mechanically Imaging, Quantifying, and Guiding Biological Systems
14:40-15:10	Avanti/EBSA Award for 2025 <i>Chairs: Aitziber López Cortajarena (Spain), Anthony Watts (UK)</i> Rumiana Dimova , Germany <i>For her pioneering development work on giant unilamellar vesicles</i> Giant vesicles unleashed: probing biomembrane marvels and mysteries
15:10-15:20	EBJ Prizes 2025 <i>Chairs: Gregor Anderluh (Slovenia)</i> Haoqing Wang , Australia and Lining Arnold Ju , Australia <i>Fluorescence-coupled micropipette aspiration assay to examine calcium mobilization caused by red blood cell mechanosensing</i> Andreas Burn , Switzerland and Martin Frenz , Switzerland <i>A quantitative interspecies comparison of the respiratory mucociliary clearance mechanism</i> Karlo Komorowski , Germany and Tim Saldit , Germany <i>Neurotransmitter uptake of synaptic vesicles studied by X-ray diffraction</i>
15:20-15:40	Closing ceremony, Aula Magna Introducing the EBSA Congress in Berlin 2027



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