Session	Name	Abstracts for oral presentation
50 years of pure and appli sci in Italy	Armando Carpaneto	Functional characterisation of electron currents in plant vacuoles: direct recordings of cytochrome b561A activity
50 years of pure and appli sci in Italy	Lorenzo Stella	Bridging the gap between biophysical and microbiological studies of membrane-active host defense peptides: thermodynamics and kinetics of interaction with live bacterial cells.
50 years of pure and appli sci in Italy	Mauro Manno	Extracellular vesicles based technologies for next-generation drug-delivery
50 years of pure and appli sci in Italy	Sajedeh Kerdegari	Nuclear cell mechanics
50 years of pure and appli sci in Italy	Tomaso Zambelli	Effect of Cell Membrane Tension Dynamics on Piezo1: a combined FluidFM and FLIM-Flipper Study
50 years of pure and appli sci in Italy	Elena Ferraguzzi	Establishing model membrane platforms to understand the role of lipids in the regulation of plasma membrane activity.
Activation and modulation of membrane proteins	Adam Lange	Cation Channels and Rhomboid Proteases Studied by Solid-State NMR
Activation and modulation of membrane proteins	Burkhard Bechinger	Mechanism of action and lipid-mediated synergistic interactions of antimicrobial peptides.
Activation and modulation of membrane proteins	Maria Florencia Sánchez	Ligand-free in situ confinement for GPCR activation and signal transduction
Activation and modulation of membrane proteins	Shreyas Kaptan	Competing wooers: A regulatory mechanism of the β2-adrenergic receptor based on competition between cholesterol and polyunsaturated lipids
Bioenergetics and biological thermodynamics	Anais Biquet-Bisquert	Unveiling the Dynamic Nature of the Proton Motive Force in Single Escherichia coli cells: Temporal and Spatial Characterization
Bioenergetics and biological thermodynamics	Daniel Dornbusch	Unravelling the Interplay of DNA Origami and Chaotropic Agents: Anion-Specific Stability and Water-Driven Effects
Bioenergetics and biological thermodynamics	Joana V. Ribeiro	Potential regulatory role of succinylation on electron transfer flavoprotein, a key protein in mitochondrial metabolism
Bioenergetics and biological thermodynamics	Kohki Okabe	Elucidation of the mechanism of intracellular temperature variation by high-speed temperature mapping
Biophotonics	Erik Olsén	MICROSCOPY-BASED LABEL-FREE SIZE AND REFRACTIVE INDEX QUANTIFICATION OF NANOPARTICLES IN UNKNOWN MEDIA USING DAISY

Biophotonics	Francesco Reina	TRACKING MEMBRANE DYNAMICS ON STEM CELL-DERIVED NEURONS USING 3D MINFLUX
Biophotonics	Ivan N. Unksov	DNA BIOSENSOR BASED ON SEMICONDUCTOR NANOWIRES AND DNA–TEMPLATED FLUORESCENT SILVER NANOCLUSTERS (Semiconductor nanowires for biosening)
Biophotonics	Lucia Gardini	SINGLE OBJECTIVE LIGHT-SHEET PALM ALLOWS VOLUMETRIC SUPER-RESOLUTION IMAGING IN BACTERIAL BIOFILMS
Biophysics of biological barriers	Lucrezia Caselli	PEPTIDE COATING BOOSTS MEMBRANE INTERACTIONS AND ANTIMICROBIAL EFFECTS OF PHOTOCATALYTIC TITANIUM DIOXIDE NANOPARTICLES.
Biophysics of biological barriers	Lukasz Cwiklik	EXPLORING THE INTERACTIONS OF TOPICAL OPHTHALMOLOGIC DRUGS WITH A TEAR FILM MODEL THROUGH A HYBRID EXPERIMENTAL-COMPUTATIONAL APPROACH.
Biophysics of biological barriers	Maria J. Sarmento	DECIPHERING THE ROLE OF NUCLEAR ENVELOPE LIPIDS IN HUMAN HEALTHY AGING
Biophysics of biological barriers	Nicky Tam	JELLIED VESICLES: PROBING THE INTERACTIONS BETWEEN CELL-DERIVED EXTRACELLULAR VESICLES AND MATRIX MATERIALS
Biophysics of redox biology	Francesco Stellato	THE "IN-BETWEEN" STATE OF THE COPPER-AMYLOIDB COMPLEX STUDIED BY X-RAY ABSORPTION THROUGH PARTIAL THERMAL RELAXATION AFTER PHOTOREDUCTION
Biophysics of redox biology	Giuseppe Filomeni	IT TAKES TWO TO TANGO: CHANGE IN THE QUATERNARY STRUCTURE AND ONCOGENICITY OF TRAP1 VIA CYSTEINE OXIDATION.
Biophysics of redox biology	Michael Di Gioacchino	RAMAN SPECTROSCOPY PROBES OXIDATIVE STRESS AND NODULES EVOLUTION IN CYTOLOGICAL THYROID CANCER SAMPLES
Biophysics of redox biology	Tania Sousa	HOW ABUNDANT ARE SUPEROXIDE AND HYDROGEN PEROXIDE IN THE VASCULATURE LUMEN, HOW FAR CAN THEY REACH?
Biophysics of the green transition	Caterina Medeot	Gold nanoparticles green synthesis: the effect of natural compounds
Biophysics of the green transition	Christofer Lendel	Design of hierarchical protein materials for a sustainable society
Biophysics of the green transition	Mai Bay Stie	Sustainable waterborne electrospinning of protein-based materials
Biophysics of the green transition	Miguel A. Soler	Enzymes in deep eutectic solvents: Simulations of lipases for the biocatalysis of carbohydrate polyol esters
Biophysics of viruses	Carolina C. Buga	UNVEILING THE MOLECULAR MECHANISM OF MEMBRANE FUSION MEDIATED BY THE PARAINFLUENZA FUSION PEPTIDE
Biophysics of viruses	Daniel Ziemianowicz	How Influenza A Virus Solves the Nuclear Escape Room

Biophysics of viruses	Gyula Hoffka	Combined computational study of the binding of nirmatrelvir to SARS-CoV-2 main protease: insight into resistance mechanism
Biophysics of viruses	Marta Bally	DYNAMIC INVESTIGATIONS OF NOROVIRUS-GLYCOSPHINGOLIPID INTERACTIONS USING CELL-MEMBRANE MIMICS
Breakthrough methods in molecular biophysics	Giulio Bianchi	Measuring force- and orientation- dependence of F-actin-binding mechanotrasductor proteins with an ultra-fast optical trapping assay
Breakthrough methods in molecular biophysics	Helena Danielson	The role of biosensor-based interaction kinetic analysis for life science research and drug discovery – from fragments to PROTACs
Breakthrough methods in molecular biophysics	Taras Sych	Single particle profiler for measuring content and properties of nano-sized bioparticles
Computational biophysics	Forbes Burkowski	Dynamic allostery in the PDZ3 domain: Deriving directed signals by assessing correlations of side chain dihedral angles perturbed by Brownian kicks
Computational biophysics	Lukáš Sukeník	Elucidating the Mechanisms of Genome Release in Picornaviruses using Cryo-EM and Coarse-Grained Simulations
Computational biophysics	Maryam Majdolhosseini	Which part of axonal membrane is the most vulnerable: A molecular dynamics/Finite Element study
Computational biophysics	Maxim Igaev	Microtubule assembly as a molecular Brownian ratchet: from atomistic to super coarse-grained modeling
Intrinsically disordered proteins and liquid-liquid phase separations	Agustin Mangiarotti	Biomolecular condensates in contact with membranes: interaction mechanism, wetting, and complex remodeling
Intrinsically disordered proteins and liquid-liquid phase separations	Francesco Luca Falginella	Phase separation of the C-terminal domain of RNA Pol II: a code in the code
Intrinsically disordered proteins and liquid-liquid phase separations	Johanna Hultman	The dynamic interaction of the N-Myc oncoprotein and the protein kinase Aurora A
Intrinsically disordered proteins and liquid-liquid phase separations	Sheung Chun Ng	Barrier-properties of Nup98 FG phases ruled by FG motif identity and inter-FG spacer length
Mechanobiology in health and disease	Alejandro Jurado Jiménez	SHAPING THE EMBYO: BLASTODERM STRESS MAPS REVEAL EARLY MECHANICAL SYMMETRY BREAKING
Mechanobiology in health and disease	Christian Nehls	VISUALIZATION AND FORCE SPECTROSCOPY OF MINERAL DESERT DUST AND ASSOCIATED MICROBES: UNRAVELING A BACTERIAL LONG-DISTANCE PROPAGATION STRATEGY

Mechanobiology in health and disease	Daniel Aili	MODULAR AND DYNAMIC HYDROGELS FOR MIMICKING THE TUMOR MICROENVIRONMENT
Mechanobiology in health and disease	Poul Martin Bendix	ACTIVE GENERATION OF TWIST IN FILOPODIA
Membranes and Membrane Proteins	Agnes Koerfer	MEASURING LIPID DYNAMICS AND PACKING WITH MINFLUX MICROSCOPY
Membranes and Membrane Proteins	Christine Doucet	STRUCTURE AND ASSEMBLY OF NUCLEAR PORE COMPLEXES BY CORRELATIVE AFM-DSTORM
Membranes and Membrane Proteins	Luke Chao	IN SITU ARCHITECTURE OF OPA1-DEPENDENT MITOCHONDRIAL CRISTAE REMODELING
Membranes and Membrane Proteins	Roberto Covino	A UNIQUE AMPHIPATHIC ALPHA-HELIX DRIVES MEMBRANE INSERTION AND ACTIVITY OF ATG3
Microfluidics and organ-on-a-chip for biophysics	Aitor Manteca	NEOEPITOPE LIBRARIES CONSTRUCTION AND SCREENING BY NATURAL LANGUAGE PROCESSING TOKENIZATION AND DROPLET MICROFLUIDICS.
Microfluidics and organ-on-a-chip for biophysics	Christina Tringides	DEVELOPING TISSUE-INSPIRED SYSTEMS TO ENABLE PHYSIOLOGICALLY-MIMICKED 3D NEURONAL CULTURES
Microfluidics and organ-on-a-chip for biophysics	Enrico Turato	ENHANCED DNA MIXING WITH VISCOELASTIC WAVES
Microfluidics and organ-on-a-chip for biophysics	Oliver Vanderpoorten	NANOFLUIDIC DIFFUSIONAL SIZING OF SINGLE MOLECULES AND NANOPARTICLES IN SOLUTION
Molecular motors and machines	Borja Ibarra	Single-molecule optical tweezers studies of human mitochondrial DNA replication: Unraveling the coordinated activities of PolG and mtSSB
Molecular motors and machines	Line Mørkholt Lund	Unfolding dynamics of G-rich DNA knots control RecQ helicase processivity
Molecular motors and machines	Stavros Azinas	Cryo-EM conformational insights of bacterial dissagregase ClpG
Molecular motors and machines	Thomas C.R. Miller	Mechanism of MCM helicase loading and regulation by CDK revealed by cryo-EM
Neutrons in life Sciences and Biophysics	Andreas Stadler	Synthetic myelin for biomimetic neuroscience
Neutrons in life Sciences and Biophysics	Hanna Barriga	Towards mapping the relationship between lipid nanoparticle structure and performance
Neutrons in life Sciences and Biophysics	Marie Lycksell	Small-angle neutron scattering of a pentameric ligand-gated ion channel reveals a dynamic regulatory domain
Neutrons in life Sciences and Biophysics	Moritz Frewein	Distributing Aminophospholipids Asymmetrically Across Leaflets Causes Anomalous Membrane Stiffening

Novel methods for cell biophysics	Daniel Midtvedt	TEMPORAL MONITORING OF SIZE, MASS, AND MORPHOLOGY OF WEAKLY INTERACTING SYSTEMS
Novel methods for cell biophysics	Guillem Marín-Aguilera	NOVEL METHODOLOGY TO MEASURE ROTATIONAL DIFFUSIVITY IN CELLS WITH FLUORESCENCE PHOTO-SWITCHING.
Novel methods for cell biophysics	Soohyen Jang	FAST SUPER-RESOLUTION SINGLE-MOLECULE LOCALIZATION MICROSCOPY USING EXCHANGEABLE FLUORESCENT PROBES
Protein Design	Anastassia Vorobieva	De novo design of transmembrane beta-barrel nanopores
Protein Design	Francesco Antonio Aprile	Integrative Antibody Discovery to Target Challenging Protein Assemblies
Protein Design	Laura Perez Chirinos	Tuning the dimensionality of supramolecular materials through the design of peptide-protein co-assemblies.
Protein Design	Sara Fortuna	A computational protocol for the in silico maturation of antibody fragments
Protein dynamics	Alexandra Teslenko	SINGLE-MOLECULE ENZYMOLOGY OF CHROMATIN UBIQUITINATION
Protein dynamics	David Scheerer	SUBSTRATE INHIBITION OF AN ENZYME: ARE ULTRAFAST MOTIONS AFFECTING CATALYTIC ACTIVITY?
Protein dynamics	Rafael Tapia-Rojo	ENHANCED STATISTICAL SAMPLING REVEALS MICROSCOPIC COMPLEXITY IN THE TALIN MECHANOSENSOR FOLDING ENERGY LANDSCAPE
Protein dynamics	Zhaowei Liu	UNRAVELLING THE DYNAMICS OF REPLISOME PROGRESSION AND HISTONE TRANSFER IN EUKARYOTIC DNA REPLICATION
Protein folding, assembly and disease	Arantza Muguruza-Montero	Calmodulin is critical for folding of the Kv7.2 calcium responsive domain as the nascent peptide exits the ribosome
Protein folding, assembly and disease	Axel Abelein	Structural insights into aggregation hotspots on Alzheimer's associated amyloid-β fibrils blocked by the BRICHOS chaperone
Protein folding, assembly and disease	Ismahene Mesbah	The contribution of Short Linear Motifs (SLiMs) to the mechanostability of mechanosensitive proteins
Protein folding, assembly and disease	Sara Ribeiro	Surveying Chaperone Action on Protein Folding Landscape Inside Living Cells
Protein structure and function	Darian Yang	CHARACTERIZATION OF AN ALTERNATE CONFORMATION OF THE HIV-1 CAPSID PROTEIN CTD DIMER USING 19F NMR AND WEIGHTED ENSEMBLE MD

Protein structure and function	Dominique Madern	PROTEIN CONFORMATIONAL SPACE AT THE EDGE OF ALLOSTERY: TURNING A NON-ALLOSTERIC MALATE DEHYDROGENASE INTO AN "ALLOSTERIZED" ENZYME USING EVOLUTION-GUIDED PUNCTUAL MUTATIONS
Protein structure and function	Kristyna Pluhackova	KILLING TO SURVIVE - THE MANY MOLECULAR MECHANISMS OF PROGRAMMED CELL DEATH
Protein structure and function	Silvia Trigüis	SAMASE FROM BACTERIOPHAGE T3 COUNTERACTS BACTERIAL DEFENCE SYSTEMS THROUGH SAM CLEAVAGE AND INHIBITION OF SAM SYNTHESIS
RNA biophysics: structure, dynamics and interactions	Andrew Emmerich	Mechanisms of Ribosomal Translocation and Evolution of Translation Machinery in the Protozoan Parasite Giardia Intestinalis as Visualized with Cryo-EM
RNA biophysics: structure, dynamics and interactions	Ankush Singhal	Predicting RNAs 3d structure and targeting RNA structure with small-drug molecules.
RNA biophysics: structure, dynamics and interactions	Neva Caliskan	Decoding SARS-CoV-2 frameshifting: Unraveling the orchestrated interplay of RNA Structures
RNA biophysics: structure, dynamics and interactions	Ruchi Anand	Deciphering the mechanism of ribosomal methyltransferases mediated antibiotic resistance
RNA biophysics: structure, dynamics and interactions	Shreya Pundir	How E167K RF2 compensates for the loss of RF1 – molecular insight with structure and function
RNA biophysics: structure, dynamics and interactions	Valerio Piomponi	Combining Molecular Dynamics and Solution Experiments to Investigate the Impact of RNA Modifications on Structural Dynamics.
RNA biophysics: structure, dynamics and interactions	Vinoth SUNDAR RAJAN	Studying the stability and conformational dynamics of the SARS-CoV-2 SL4 RNA hairpin combining base analogues and optical tweezers
Self-organised and biomimetic systems	Ioanna Smyrlaki	NOTCH ENGAGEMENT BY JAG1 NANOSCALE CLUSTERS INDICATES A FORCE-INDEPENDENT MODE OF ACTIVATION
Self-organised and biomimetic systems	Johanna Utterström	INFLUENCE OF LIPID COMPOSITION AND PEPTIDE CONJUGATION STRATEGIES ON CONTROLLED RELEASE FROM LIPOSOME-BASED DELIVERY SYSTEMS
Self-organised and biomimetic systems	Lukasz Piatkowski	LIPID-WATER-ION INTERACTIONS DETERMINE CELL MEMBRANE STRUCTURE AND DYNAMICS
Self-organised and biomimetic systems	Raviv Dharan	TETRASPANIN 4 MEDIATED MIGRASOME FORMATION MECHANISM
Single-molecule biophysics	Annie Sahota	Nanoscale tweezers for spatially resolved single-cell subcellular analysis
Single-molecule biophysics	Jan Christoph Thiele	Single-protein holography

Single-molecule biophysics	Sabine Straathof	Protein sizing using 15-nm conical nanopores YaxAB
Single-molecule biophysics	Veronika Frank	Detection and quantification of ultrafast molecule-spanning dynamics in a multi domain protein by single-molecule fluorescence
Time-resolved structural biology	Guillaume Mas	FUNCTIONAL CYCLE OF THE HUMAN HSP70 CHAPERONE BIP AT ATOMIC RESOLUTION
Time-resolved structural biology	Luiz Schubert	RHODOPSIN ACTIVATION MONITORED BY SINGLE-SHOT IR SPECTROSCOPY
Time-resolved structural biology	Nandan Haloi	STRUCTURAL AND ENERGETIC CHARACTERIZATIONS OF THE CONFORMATIONAL LANDSCAPES IN LIGAND GATED ION CHANNELS USING ADAPTIVE SAMPLING AND MARKOV STATE MODELING
Time-resolved structural biology	Sebastian Jaksch	TIMESCALES OF CELL MEMBRANE FUSION MEDIATED BY SARS-COV2 SPIKE PROTEIN AND ITS RECEPTOR ACE2