

AFM BioMed Conference

Atomic Force Microscopy in life sciences and nanomedicine

8th-11th April 2025 · UB, Barcelona

POSTERS 1 - 9 APRIL		
P1	Horacio V. Guzman	Unmasking biomacromolecular conformational dynamics from AFM images with dynamic modes and molecular kinetics models
P2	Matthew Brukman	Multi-Scale AFM Elucidates the Mechano-Transduction Driving Hair Follicle Regeneration
P3	João Belo	Quick and simple method to obtain viscoelastic parameters from force curves
P4	Jean-Luc Pellequer	Dual quantification for elasticity heterogeneity of soft materials
P6	Itzel Garcia Monge	Revealing the unbinding mechanics of hyaluronan? receptor interactions on live cells
P7	Dawid Lupa	Quantitative Nanomechanical Mapping Reveals Nanscale Heterogeneity Of Inner Leaflet Of Inner Mitochondrial Membrane
P8	Carine Assaf	Development Of Atomic Force Microscopy Related Modes For The Study Of Plasma Membrane Repair
P9	Ana Svetic	From Liposome Fusion to Giant Plasma Membrane Vesicle Supported Plasma Membrane Models: Platforms to Study Extracellular Vesicle Internalization Dynamics in Breast Cancer
P10	Tim Kutz	Red blood cell membrane tension modulation by photo switchable molecules
P11	Mar Alcaraz Hurtado	Methylglyoxal-Induced Changes in Nuclear Viscoelasticity and Lamina Integrity

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P12	Panagis Polykretis	The Impact of Actin Mutations on Neuronal Progenitor Cells studied by Atomic Force and Confocal Microscopies
P13	Manuela Brás	Quantification Of Mechanical Properties By Dynamic Force Microscopy Can Be A Novel Biomarker In Colorectal Cancer Disease
P14	Ellen Juel Pørtner	Viscoelastic differences between isolated and live cancer cell nuclei resolved with AFM microrheology
P15	Radka Obořilová	AFM Spectroscopy for the Study of Lipid Bilayer Stability and Morphology
P16	Martin Eduardo Villanueva	QCM-D and AFM combination: a ?marriage parfait? for experimental lipid membrane biophysics studies
P17	Devam Purohit	Quantifying and manipulating the molecular elasticity of Drosophila
P18	Sujal Kataria	From monolayers organized structures to perturbed multistratified structures: interplay of cell-cell adhesion, cytoskeleton and viscoelasticity
P19	Samer Alokaidi	Patchy Adhesion of Staphylococcus aureus on Structured Surfaces Uncovered via Single Cell Force Spectroscopy
P20	Remy Ratajczak	Nanoscale electrical properties of biological nanofiber networks in Cable Bacteria
P21	Marcos Carrera	The influence of mechanical stretching on the conformational and ionization properties of linear poly(ethylenimine)
P22	Claudia Chitty	Morphometric quantification and visualisation of helical filament

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		structures by integration and augmentation of cryo-electron microscopy data in simulation atomic force microscopy
P23	Javier Orradre Altabás	Stretching of hyaluronic acid at the single molecule level
P24	Laura Wolfthaler	Pulling Geometry as a Design Parameter for Coiled Coil-Based Molecular Force Sensors
POSTERS 2 - 10 APRIL		
P25	Kubra Kelleci	Investigation of Effect the Mechanical Parameters of the Glioma and Keratinocyte Cells by using Finite Element Methods
P26	Jens Uwe Neurohr	Impact Of Geometry On Chemical Analysis For Photoelectron Spectroscopy Of Black Silicon
P27	Simone Dinarelli	Characterization of membrane budding and extracellular vesicles with AFM
P28	Mengjia Xu	FluidFM and electrophysiology
P29	Alexander Cartagena-Rivera	Ezrin is a major regulator of viscoelastic properties and force generation in T Lymphocytes during immunological synapse formation
P30	Vincent Fideli	Engineering bacterial traps to understand and inspire next-generation antibiotics
P31	Ekaterina Sherstyukova	Using Afm To Assess The Quality Of Whole Blood After Pathogen Reduction With Riboflavin And Uv Irradiation
P32	Viktoria Sergunova	AFM Study Of The Effect Of siRNA On Macrophage Phenotype
P33	Adrià Botet-Carreras	Cannabidiol interaction with neuronal model membranes

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P34	Michal Swietlicki	The effect of DMSO on morphological and physiological traits of bacteria
P35	Giacomo Paccagnan	Understanding the biophysical role of Desmoglein 3 in Pemphigus Vulgaris via Fluidic Force Microscopy and Total Internal Reflection Fluorescence Microscopy
P36	Joshua Preston	Determining aortic wall nanomechanical properties in neonatal patients with coarctation of the aorta
P37	Konrad Szymanowski	Enhanced Understanding of Biomechanical Observations in AFM Studies Through Quantitative Analysis of Cytoskeletal Filaments from Fluorescence Imaging
P38	Nikolina Peranic	Nanomechanical Signature Of Dopaminergic Neurons
P39	Johannes Mischo	Characterization of the unique attachment organelle of Giardia duodenalis trophozoites by Single-Cell Force Spectroscopy
P40	Sukanya Das	Single-molecule force spectroscopy of a commercial thin film hydrogel
P41	Tom White	Nanomechanics of cell-derived matrices as a functional read-out in Collagen VI-related Congenital Muscular Dystrophies
P42	Izabela Swietlicka	Collagen Type I: morphological and molecular structure changes induced by different concentrations of β -hydroxy β -methylbutyric acid
P43	Jakub Máčala	Dual-Organoid Biosensor for Monitoring Cardiac Conduction Disturbances <i>In Vitro</i>
P44	Carlos Marcuello	Vipp-1 Mediated Membrane Remodelling Repair: Dynamics and

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		Mechanics with Fast-AFM Imaging and Nanomechanics
P45	Yiwei Zheng	Influence of Internal and External Influences on the Peptide Assemblies Revealed by Atomic Force Microscopy
P46	Hirona Osaka	Analysis of the bundling of F-actin by γ -actinin
P47	Jae Won Jang	Spontaneously Directed Loop Extrusion in SMC complexes Emerges from Broken Detailed Balance and Anisotropic DNA Search.
P48	Jakub Hruska	AFM application across the life sciences field and its combination with special techniques
P49	Vincent Dupres	AFM automation for mechanical tracking of mammalian cells
P50	Harinderbir Kaur	Re-examining the topography of pentameric IgM-J chain using AFM