

16th IBEC SYMPOSIUM

BIOENGINEERING

FOR FUTURE AND PRECISION MEDICINE

ID Poster	NAME	TITLE	SESSION	SCREEN
1	Gaia Amato	3D models to study CAKUT disease: from CRISPR/Cas9-engineered hPSC lines to the differentiation of human kidney organoids.	1	1
2	Marta Badia Graset	A minimal model for the formation of non-toxic protein aggregates by TDP-43	1	1
3	David Bartolomé-Català	Designing in vitro platforms to study transendothelial T cell migration in colorectal cancer	1	1
4	Armando Cortés Reséndiz	Unraveling the NASH-Muscle Atrophy Connection: Functional Analysis of Sarcopenic Skeletal Muscle in vitro	1	1
17	Dolores Blanco-Almazán	Evaluating Breathing Pattern in COPD Patients using Thoracic Bioimpedance	1	2
18	David Gomez-Cabeza	CheShImP: Democratising MRSI Data Processing of Chemical Shift Images for Precision Medicine	1	2
19	Mariano Martín	The mutational landscape of a mammalian functional amyloid	1	2
20	Gian Marco Tuveri	Computational Study Of The Low-Density Lipoprotein Receptor-Related Protein 1 (Lrp1) Structure And Dynamics.	1	2
21	Juan Francisco Abenza Martínez	Mechanical control of the fibroblast circadian clock via YAP/TAZ	1	3
22	Ona Baguer	Role of nuclear mechanics in the regulation of EMT in pancreatic cancer cells	1	3
23	Nimesh Chahare	Harnessing active viscoelasticity for synthetic epithelial morphogenesis	1	3
24	Eleni Dalaka	Quantifying cellular forces in native tumour environments in 3D co-cultures of colorectal tumouroids and stromal cells	1	3
36	Joana Admella Pedrico	Investigating Bacterial Infections in Galleria mellonella Larvae: Insights into Pathogen Dissemination and Behavior	1	4
37	Lara Victoria Aiassa	Targeting macrophage polarization states for precision immunotherapy	1	4
38	Júlia Alcàcer Almansa	Insights on the regulation and transcription pattern of the Ribonucleotide Reductases of Burkholderia cenocepacia in infection-like conditions.	1	4
39	Marc Alorda Carreras	Processing of serological microarray data for COVID-19.	1	4
5	Judith Fuentes Llanos	Integration of ferrofluid into 3D bioprinted skeletal muscle-based actuators provides magnetic guidance and improves force contraction	1	5
6	Manuela Garay-Sarmiento	Designing zwitterionic granular hydrogels towards specific interactions with living matter	1	5
7	Amayra Hernandez Vega	Tau Dynamics and Cooperative Interactions: possible relevance for its role as a Microtubule Associated Protein and for its pathological Solid Transition in Neurodegenerative Diseases	1	5
8	Dayaneth Jácome Montero	Increased H3K9 acetylation in PRNP promoter correlates with up-regulated PrPC expression in hippocampal samples of preclinical Alzheimer's disease	1	5
25	Laura Faure	Cell confinement in 3D leads to cell extensile forces	1	6

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26	Isabela Corina Fortunato	Cell migration up and down fibronectin gradients	1	6
27	Miguel Gonzalez Martin	Designing synthetic mechanosensitive molecules for the mechanical control of cellular transcription.	1	6
28	Clément Hallopeau	Mechanisms of mechanical compartmentalization in intestinal organoids	1	6
40	Betsy Verónica Arévalo Jaimes	Died or not dyed: Assessment of viability and vitality dyes on planktonic cells and biofilms from <i>C. parapsilosis</i>	1	7
41	Yunuen Avalos	Application of aptamers targeting ESCRT-III proteins as a potential antiplasmodial tool	1	7
42	Valentino Barbieri	Designing hybrid polymersomes for thermoplasmonics and targeted photothermal therapy	1	7
43	Marco Basile	On the Amyloid- β transcytosis across the blood-brain barrier	1	7
44	Núria Blanco-Cabra	Disturbing bacterial morphogenesis by antibiotic action	1	8
45	Barbara Borges Fernandes	Investigating chemotaxis in a minimum cell model	1	8
46	Margarita Bulatova	Understanding the Influence of Host-Guest Interaction on Fumarate Hyperpolarization	1	8
47	Núria Camarero Palao	Phototrexate, a photoswitchable antimetabolite for targeted photoactivated chemotherapy and psoriasis.	1	8
29	Marc Molina Jordán	Study of the role of substrate stiffness and force transmission to the nucleus in nucleocytoplasmic transport, nuclear pore conformation, genome organization and gene expression	2	1
30	Zarina Nauryzgaliyeva	Dissecting early nephron patterning and segmentation in kidney organoids derived from hPSCs	2	1
31	Alice Perucca	Micro Immune Response On-chip (MIRO): a model of tumour-stroma interface for immunotherapy testing	2	1
63	Maria Jose Lopez Martinez	Kill&Repel Coatings: The Marriage of Antifouling and Bactericidal Properties to Mitigate and Treat Wound Infections	2	2
64	Ángela Martínez Mateos	Novel insights into the regulation of the nrdAB class Ia ribonucleotide reductase from <i>Pseudomonas aeruginosa</i>	2	2
65	Víctor Mejías Pérez	MR1 protein: the gateway to target Tuberculosis infection	2	2
48	Víctor Campo Pérez	Role of microbiota on immunotherapy outcome in a murine model of non-muscle invasive bladder cancer	2	3
49	Víctor Campo Pérez	An easy, high-throughput microtiter plate screening assay to quantify and differentiate species in dual-species biofilms	2	3
50	Palash Chandravanshi	Harnessing Regenerative Potential for Spinal Cord Injury Treatment with Age-Specific Decellularized Extracellular Matrix Bioinks	2	3
12	Pablo Scodeller	Verteporfin-based Peptide-Drug conjugate modulates tumor macrophages eliciting therapeutic effect	2	4
13	Ainoa Tejedera Villafrañca	Mimicking Sarcolemmal Damage in vitro: A Contractile 3D Model of Skeletal Muscle for Drug Testing in Duchenne Muscular Dystrophy	2	4
14	Anna Vilche	Creating a Brain Culture System: Microphysiology and Hydrogel Integration	2	4

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51	Shuqin Chen	Swarming Behavior of Enzymatic Nanomotors: Experiments and Simulations	2	5
52	Claudia Codano	Design of phenotypic anti-inflammatory nanomedicines	2	5
53	David Esporrín Ubieta	Nanogel-based nanomotors navigating in viscous media	2	5
54	Juan Fraire	Effect of swarming on the delivery efficiency of pDNA-loaded layer-by-layer PLGA nanomotors	2	6
55	Juan Fraire	Magnetic navigation of swarms of enzyme-powered nanomotors with photothermal properties for immunogenic cell death	2	6
56	Subhadip Ghosh	Single-Molecule Analysis of Protein Corona Formation on Polymeric Assemblies	2	6
57	Daniel Gonzalez Carter	Generating Artificial Targets to Deliver Therapies Specifically to the Brain	2	7
58	Christopher James	Biomaterial Incorporated Human Mesenchymal Stem Cell Secretome For Cardiac Regeneration	2	7
59	Antonio Juárez Giménez	Targeting plasmid-encoded proteins that contain immunoglobulin-like domains to combat antimicrobial resistance.	2	7
60	Nina Kostina	New concepts for synthetic cell membranes as a platform to interact with biology	2	8
61	Fichna Kristin	Enzyme-powered nanomotors for enhanced drug delivery	2	8
62	Cátia Lopes	Beyond the closed doors: unlocking novel therapeutic opportunities in Alzheimer's Disease	2	8
9	Sheeza Mughal	Decoding Chronic Fatigue Syndrome and Long-Covid-19 - Mitochondrial Pathology in serum exposed 3-D in vitro Skeletal Muscle Tissues	3	1
10	Adria Noguera Monteagudo	Development of a microfluidic system for the study of the angiogenic response in an extracellular matrix	3	1
81	Claudia Camarero -Hoyos		3	1
15	Renato Eduardo Kevyn Yanac Huertas	A microfluidic platform as a physiologically relevant myocardium model for cardiovascular diseases	3	2
16	Karolina Zimkowska	Project Outline: 3D Brain Organoid Tauopathy Model	3	2
35	Tom White	Characterisation of Extracellular Matrix Models of Collagen VI-Related Congenital Muscular Dystrophies at the Nanoscale	3	2
66	Ruben Millan-Solsona	Probing the electrical properties of isolated fibers from cable bacteria without contacting them by scanning dielectric microscopy	3	3
67	Jose Muñoz López	Design and characterization of bifunctional hydrophilic Janus micelles as novel nanodrugs.	3	3
68	Anna Panteleeva	Neurofilament light biosensor in a brain-on-a-chip for neuronal activity monitoring	3	3
32	Leone Rossetti	Optogenetic generation of leader cells reveals a force-velocity relation for collective cell migration	3	4
33	Ignacio Viciano	Development of small molecules inhibitors of mechanotransduction as potential pancreatic cancer therapy	3	4
34	Srivatsava Viswanadha	Characterizing the role of mechanotransduction in mouse embryonic stem cells	3	4

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69	Marina Placci	Transcytosis of anti ICAM-1 NPs in a transwell-model of the lung endothelium	3	5
70	Carles Prado	Designing Enzymatically-Powered PLGA Nanobots and Exploring its Swarming Behavior for Skin Applications	3	5
71	Lucia Roman	Nanotechnological Approaches against Leishmaniasis: Aerosol Therapy with Pentamidine-loaded Liposomes	3	5
72	Alessandro Ronzoni	Live Cell Imaging Of LRP1 Trafficking	3	6
73	Noelia Ruiz-González	Swarms of enzyme-powered nanomotors enhance the diffusion of macromolecules in viscous media	3	6
74	Tiziana Russo	Super predatory ionically-linked comb polymers for engulfment of micro and nanoparticles	3	6
75	Daniel Sánchez de Alcázar Melendo	Chopping off urease into two: trimers as active matter for nanomotors	3	7
76	Ramona Santini	Drug Loading Strategies For Discotic Amphiphile Supramolecular Polymers In Water	3	7
77	Shubham Tanwar	Nanoscale Multimodal Characterization of Operating Electrolyte-Gated Transistors	3	7
78	Maria Jose Ugarte	Development of a Label-Free Plasmonic Biosensor for Accurate Diagnosis of Myasthenia Gravis	3	8
79	Akhil Venugopal	Dynamic Lipid Vesicles: Next-Generation Drug Delivery Systems	3	8
80	Zhendong Xie	Integrating phenotypic targeting in physiologically-based pharmacokinetics modeling	3	8