

17th IBEC SYMPOSIUM

BIOENGINEERING FOR EMERGENT AND ADVANCED THERAPIES

October 21st and 22nd · Cítilab and Auditori AXA, Barcelona



ID Poster	Name	Surname	Title	Topic
1	Gaia	Amato	Developing Human Organoids To Model Genetic And Systemic Conditions During Congenital Anomalies Of The Kidney And Urinary Tract	Cell Engineering
2	Chiara	Ninfali	Duchenne Muscular Dystrophy fibro-adipogenic progenitors impair muscle function of co-cultured healthy myotubes in a functional 3D model	Cell Engineering
3	Karolina	Zimkowska	Monitoring Neuronal Activity in Human Cortical Organoids with Frontotemporal Lobar Degeneration-Tau (FTLD-Tau)	Cell Engineering
4	Gulsun	Bagci	Cell-Derived Extracellular Matrices for 3D Breast Cancer Models	Cell Engineering
5	Ainhoa	Ferret Miñana	3D bioengineered liver for the study of acute and chronic hepatic damage	Cell Engineering
6	Julia	Fabà-Costa	Development of an ex utero embryo culture platform to address post-implantation development and early placentation	Cell Engineering
7	Victoria	Batto	Identifying Clinically Relevant Biomarkers in NSCLC through Collagen Fragment Analysis	Cell Engineering
8	Dakota	Coloroso	Development of a 3D Organoid-on-a-Chip Device for Human Spinal Cord Models	Cell Engineering
9	Armando	Cortés Reséndiz	Decoding skeletal muscle-liver axis in the context of sarcopenia: Towards the multi organ on a chip	Cell Engineering

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10	David	Bartolomé-Català	Designing in vitro platforms to study transendothelial T cell migration in colorectal cancer	Cell Engineering
11	Xiomara	Fernández Garibay	Advancing Preclinical Research of Myotonic Dystrophy Type 1 with 3D Functional Human Skeletal Muscle Tissues	Cell Engineering
12	Judith	Fuentes Llanos	Real-Time Force Monitoring of Electrically Stimulated 3D Bioengineered Muscle Bioactuators Using Organic Sensors with Tunable Sensitivity	Cell Engineering
13	Steffen	Grosser	Optogenetic control of collective dynamics in epithelial cells	Cell Engineering
14	Inés	Martínez Soria	Roles of the Adhesion G Protein-Coupled Receptor D1 (ADGRD1) during CNS development and adult neuronal plasticity	Cell Engineering
15	Dayaneth	Jácome	Targeting PrPC signaling involved in glioblastoma by miR-519a-3p as therapeutic intervention	Cell Engineering
16	Sheeza	Mughal	Transient Metabolic Adaptation and weakness in healthy 3-D in vitro skeletal muscle tissues exposed to Chronic Fatigue Syndrome and Long COVID-19 sera	Cell Engineering
17	Adrià	Noguera Monteagudo	Advanced Microfluidic Platform For 3d Angiogenesis Studies	Cell Engineering
18	Marc	Riu Villanueva	Viral expression of tau with the P301L mutation induces tauopathy hallmarks on pluripotent stem cell-derived neuronal cultures	Cell Engineering

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October 21st and 22nd · Cítilab and Auditori AXA, Barcelona



19	Gisele Priscila	Soares de Aguiar	Harnessing Spinal Cord ECM Cues to Enhance iPSC-Derived Neuronal Maturation and Regeneration	Cell Engineering
20	Aleixandre	Rodrigo Navarro	Optogenetic gene expression control in <i>Lactococcus lactis</i>	Cell Engineering
21	Gustavo	San Miguel	Production of Polyhydroxybutyrate (PHB) by <i>Bacillus cereus</i> 12GS for applications in regenerative therapies	Cell Engineering
22	Anisha	Pahuja	Exploiting human pluripotent stem cells to study human disease in kidney and retina	Cell Engineering
23	Gal·la	Vinyes i Bassols	Bioprinting 3D human neurovascular unit: a high-throughput in vitro platform for neurodegenerative diseases modeling and drug screening	Cell Engineering
24	Anna	Vilche	Advanced Microphysiological Device for Simulating Traumatic Brain Injury	Cell Engineering
25	Gergo	Matajsz	RF Surface Coil Design for High-Throughput Metabolic Imaging using Microfluidics	ICT for Health
26	Tecla	Duran	Blind source separation techniques for peak separation in gas chromatography-ion mobility spectrometry data using tensorial decomposition methods	ICT for Health
27	Luis	Fernández Romero	Application of Multiblock Techniques to Metabolomic and Clinical Data for Predicting Ventilatory Therapies in COVID-19 Patients	ICT for Health
28	Rishabh	Garg	Thread-Based DNA Extraction and Purification with Carbon Dot Fe ³⁺ based DNA Biosensor	ICT for Health

17th IBEC SYMPOSIUM

BIOENGINEERING FOR EMERGENT AND ADVANCED THERAPIES

October 21st and 22nd · Cítilab and Auditori AXA, Barcelona



29	Yolanda	Castillo Escario	Measuring High-Resolution Sleep Position and its Variability in Adolescents with Smartphone Accelerometers	ICT for Health
30	Eva	Martin	Evaluating the Impact of Respiratory Effort on ICU Survival	ICT for Health
31	Adriana	González	Real time biomarker determination of muscular dystrophy type 1	ICT for Health
32	Consuelo	Guardiola	Novel detectors for advanced radiotherapy at IMB-CNM	ICT for Health
33	Gema	Guedes de la Cruz	Searching for a rapid tool to identify high quality microbiota donations for specific faecal microbiota transplants	ICT for Health
34	Manuel	Lozano García	Respiratory Sound Intensity as a Noninvasive Acoustic Biomarker in COPD	ICT for Health
35	Martín	Ruiz Gutiérrez	Integrated Organ-on-Chip Platform with PINP Plasmonic Biosensor for Fibrosis Monitoring in Duchenne Muscular Dystrophy	ICT for Health
36	Daniel	Romero Perez	Multivariable Regression Model to Estimate Tidal Volume for Different Respiratory Patterns	ICT for Health
37	David	Gomez-Cabeza	Parallel Metabolic Imaging Using MRI and Microfluidics for Personalised Medicine	ICT for Health
38	Mamatha	Nijaguna	Inhibiting mechanotransduction as a novel approach for oncology therapy	Mechanobiology

17th IBEC SYMPOSIUM

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October 21st and 22nd · Cítíl·ab and Auditori AXA, Barcelona



39	Pau	Guillamat	Guidance of cellular nematics into self-shaping active surfaces	Mechanobiology
40	Annalisa	Calò	Mechanical phenotyping of lung cancer CAFs	Mechanobiology
41	Clément	Hallopeau	Mechanisms of mechanical compartmentalisation in intestinal organoids	Mechanobiology
42	Guillermo	Martínez Ara	An optogenetic toolset to understand and control epithelial mechanical balance	Mechanobiology
43	Aina	Albajar Sigalés	Studying the mechanical regulation of nucleocytoplasmic transport using Single Molecule Tracking	Mechanobiology
44	Miguel	González Martín	Designing mechanosensible molecules for the mechanical control of cellular transcription.	Mechanobiology
45	Mariana	Azevedo Gonzalez Oliva	Piezo1 is a mechanosensor of matrix viscoelasticity	Mechanobiology
46	Ona	Baguer Colomer	Role of nuclear mechanics in the regulation of EMT in pancreatic cancer cells	Mechanobiology
47	Giuseppe	Ciccione	Matrix viscoelasticity controls epithelial cell mechanobiology through dimensionality	Mechanobiology
48	Miquel	Bosch	Force transmission in embryonic-like epithelia	Mechanobiology

17th IBEC SYMPOSIUM

BIOENGINEERING FOR EMERGENT AND ADVANCED THERAPIES

October 21st and 22nd · Cítilab and Auditori AXA, Barcelona



49	Zarina	Nauryzgaliyeva	Dissecting early nephron patterning and segmentation in kidney organoids derived from hPSCs	Mechanobiology
50	Isabela Corina	Fortunato	Following and unfollowing haptotactic gradients	Mechanobiology
51	Margherita	Gallano	Nuclear Envelope Remodeling and Mechanosensing Mechanisms under Stretch	Mechanobiology
52	Laura	Faure	3D micropatterned traction force microscopy: a technique to control three-dimensional cell shape while measuring cell-substrate force transmission	Mechanobiology
53	Jorge	Oliver-De La Cruz	Substrate Stiffness Regulates Tau Nuclear Localization In Neurons	Mechanobiology
54	Özge	Özgüç	A bottom-up model to study biomechanics of human amniotic sac development	Mechanobiology
55	Alice	Perucca	Understanding the mechanobiology of immune infiltration in colon cancer.	Mechanobiology
56	Marc	Rico-Pasto	Circulation-on-a-Chip: Cell Survival Under Pro-Apoptotic Mechanical Cues in Metastasis	Mechanobiology
57	Janet	van der Graaf Mas	Experimental model of the mechanobiology of the immunocompetent tumor ecosystem	Mechanobiology
58	Thomas	Wilson	Unveiling the 3D Mechanics of Tubular Epithelial Structures for Biohybrid Devices	Mechanobiology

17th IBEC SYMPOSIUM

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October 21st and 22nd · Cítíl·ab and Auditori AXA, Barcelona



59	Shuqin	Chen	Convective Dynamics of Swarming Enzymatic Nanomotors	Nanomedicine
60	Núria	Blanco-Cabra	Novel Fluidic System With Controlled Shear Stress For Personalized Diagnostic In Biofilm-Related Infections	Nanomedicine
61	Luisa	Camerin	Photoswitchable Carbamazepine Analogs for Non-Invasive Neuroinhibition In Vivo	Nanomedicine
62	Marta	Badia	A comprehensive landscape of IAPP amyloid aggregation	Nanomedicine
63	Júlia	Alcàcer Almansa	Exploring host-pathogen interactions: Unraveling the dynamics of Pseudomonas aeruginosa and Burkholderia cenocepacia coinfection in Galleria mellonella	Nanomedicine
64	Cátia	D. F. Lopes	Precision nanomedicine-enabled CRISPR-powered gene therapy for efficient amyloid- β clearance across the blood-brain barrier	Nanomedicine
65	Antonino Nicolò	Fallica	Development of YAT2150 analogues as potent multistage antiplasmodial agents	Nanomedicine
66	Nina	Kostina	Harnessing nature's blueprints to design interactive synthetic cells	Nanomedicine
67	Joana	Admella Pedrico	Studying Pseudomonas aeruginosa and Staphylococcus aureus infection in alveolar epithelial cells	Nanomedicine

17th IBEC SYMPOSIUM

BIOENGINEERING FOR EMERGENT AND ADVANCED THERAPIES

October 21st and 22nd · Cítíl·ab and Auditori AXA, Barcelona



68	Claudia	Camarero	Discovery of a novel irresistible antimalarial drug with multiple targets altering <i>P. falciparum</i> protein homeostasis.	Nanomedicine
69	Valentino	Barbieri	The effect of ligand surface distribution on the phenotypic targeting of brain endothelial cells	Nanomedicine
70	Marco	Basile	On the Amyloid- β transcytosis across the blood-brain barrier	Nanomedicine
71	Barbara	Borges Fernandes	Chemotaxis of natural and synthetic vesicles	Nanomedicine
72	Claudia	Codano	A fumarate-based nanomedicine for macrophages' phenotypic modulation	Nanomedicine
73	Mauricio	Cano	Nanoscale dielectric imaging through deep convolutional neural networks	Nanomedicine
74	Dario	Castellana	Radioprotective effects of Amifostine loaded in PLGA nanocarriers on 3D oral cancer models upon X-ray irradiation	Nanomedicine
75	Nisha Pawar	Chauhan	Liquid Phase Transmission Electron Microscopy to understand Structure and Protein Aggregation	Nanomedicine
76	David	Esporrín Ubieto	Tuning organic nanogels for a new generation of smart nanomotors	Nanomedicine
77	Jiangqi	Feng	Polymersomes Regulating Immune Microenvironment Reduces Inflammation and Alleviates Idiopathic Pulmonary Fibrosis (IPF) by Phenotypic Targeting	Nanomedicine

17th IBEC SYMPOSIUM

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October 21st and 22nd · Cítilab and Auditori AXA, Barcelona



78	Kristin	Fichna	Urease-powered nanomotors based on mesoporous silica for chemotherapeutic bladder cancer therapy	Nanomedicine
79	Ines	Macías Tarrío	Drug-loaded PLGA nanomotors as a new approach for bladder cancer therapy	Nanomedicine
80	Ainhoa	González	Enzyme-Powered Nanobots for Enhanced siRNA Delivery in Bladder Cancer Therapy	Nanomedicine
81	María	López Carpio	Boosting urease nanomotors efficiency: purity, stability and motion	Nanomedicine
82	Silvia	Gómez	Synergistic Antimicrobial Effects through Ion Implantation in Boston Keratoprosthesis	Nanomedicine
83	Nicola	Manicardi	In vitro modeling of blood-brain barrier breakdown in amyloid-beta induced inflammation	Nanomedicine
84	Ángela	Martínez Mateos	Discovery of novel transcriptional regulators involved in the regulation of ribonucleotide reductases in Pseudomonas aeruginosa	Nanomedicine
85	Víctor	Mejías Pérez	Deciphering the Metabolite Code: Peptide-Guided Delivery to Antigen-Presenting Cells	Nanomedicine
86	Jose	Muñoz-López	On the design of precision nanomedicines with dual phenotypical targeting	Nanomedicine
87	Anna	Panteleeva	Advancing Neurodegenerative Disease Research with Enhanced Brain-on-a-Chip Technology and Integrated Biosensor Systems	Nanomedicine

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October 21st and 22nd · Cítilab and Auditori AXA, Barcelona



88	Carles	Prado	Exploring the Movement of Enzymatic-PLGA Nanobots in Human Skin Models	Nanomedicine
89	Romain	Pastre	Combinatorial mutagenesis to investigate gain of function pathogenic variants in amyloid beta	Nanomedicine
90	Marina	Placci	Glucosylceramide enrichment affects membrane nanomechanics in lipidosis	Nanomedicine
91	Giulia Maria	Porro	Characterizing the modulation of the expression level of LRP1 protein in Alzheimer's Disease	Nanomedicine
92	Carla	París Marcet	Self-communication of a hemin-based thermoresponsive nanomotor with an on off bubble propulsion	Nanomedicine
93	Eduard	Torrents	Antimicrobial and antibiofilm activity of human recombinant H1 histones against bacterial infections	Nanomedicine
94	Tomás	Quiroga	Deep mutational scanning of SOD1 to comprehensively map the impact of mutations on protein stability	Nanomedicine
95	Lucia	Roman Alamo	Development of DNA aptamers against Leishmania infantum GP63 protein	Nanomedicine
96	Alessandro	Ronzoni	Dimer Or Monomer? Trying To Unravel The Structural Characteristics Of Lrp1 Protein	Nanomedicine
97	Zahra	Saeidikia	Combining Liquid Phase TEM and Molecular Simulations to study Misfolded Protein Aggregation in Alzheimer's Disease	Nanomedicine

17th IBEC SYMPOSIUM

BIOENGINEERING FOR EMERGENT AND ADVANCED THERAPIES

October 21st and 22nd · Cítíl·ab and Auditori AXA, Barcelona



98	Daniel	Sánchez de Alcázar Melendo	Enhancing nanomotor stability: the role of enzymatic protection	Nanomedicine
99	Valentina	Schastliwaia	Incorporating Physics-informed Neural Networks into a Physiologically Based Pharmacokinetic Model for functionalized nanoparticles biodistribution prediction	Nanomedicine
100	Gema	Quiñonero López	Nanotechnology-driven hyperthermia in bioengineered neuroblastoma models	Nanomedicine
101	Renato Eduardo	Yanac Huertas	Simulation-Guided Fabrication of Photo Printed Scaffolds for Improved Cardiac Cell Alignment in Microfluidic Environments	Nanomedicine
102	Maria Jose	Ugarte	Plasmonic Biosensors to evaluate complement activation in serum of patients with myasthenia gravis	Nanomedicine
103	Akhil	Venugopal	Engineering Dynamic Lipid Vesicles with Programmable Lifetime for Controlled Cargo Release	Nanomedicine
104	Marco	Vigo	New anti-ICAM-1 antibodies for drug delivery applications	Nanomedicine
105	Zhendong	Xie	Multiscale physiologically-based pharmacokinetics modeling	Nanomedicine
106	Gian Marco	Tuveri	Computational study of the Low-density lipoprotein receptor-related protein 1 (LRP1) structure and dynamics	Nanomedicine

17th IBEC SYMPOSIUM

BIOENGINEERING FOR EMERGENT AND ADVANCED THERAPIES

October 21st and 22nd · Cítilab and Auditori AXA, Barcelona



107	Technology Transfer and Business Development Office	IBEC	Technology Transfer and Business Development Office at IBEC	Transversal Initiatives
108	Gender and diversity Committee		Promoting Gender Equality, Diversity, and Inclusion at IBEC: Goals and Actions of the Gender and Diversity Commission	Transversal Initiatives
109	IBEC Sustainability Committee		Ibec Sustainability Committee: Promoting Sustainability In Research	Transversal Initiatives
110	Core Facilities		MicrofabSpace and Microscopy Characterization Facilities: Empowering Research with New Technologies at IBEC	Transversal Initiatives
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