

## Tuesday November 22, 2022

08:00-08:45	<b>Registration</b>	
08:45-09:00	<b>Opening Ceremony</b>	
09:00-09:30	<b>Samuel Sanchez</b> (IBEC, Spain) Nanobots going in vivo	K
09:30-10:00	<b>Tania Patiño Padial</b> (Eindhoven University of Technology, The Netherlands) Bioengineering enzyme-powered nanobots: towards programmable design and functionality	K
10:00-10:20	<b>Juan Fraire</b> (IBEC, Spain) Light-Triggered Vapor Nanobubbles and Nanomotors for Drug Delivery Applications	I
<b>10:20-11:00</b>	<b>Coffee Break, Poster Session &amp; Exhibition</b>	
11:00-11:30	<b>Mariana Medina Sánchez</b> (IFW Dresden, Germany) Biomedical applications of sperm-hybrid micromotors	K
11:30-12:00	<b>César Rodríguez-Emmenegger</b> (IBEC, Spain) Using Nature's engineering principles to design biointerfaces and synthetic cells for nanomedicine	K
12:00-12:15	<b>Anna Bakenecker</b> (Institute for Bioengineering of Catalonia (IBEC), Spain) Evaluating the collective dispersion of magnetic-enzymatic nanomotors	O
<b>12:15-13:00</b>	<b>Poster Session &amp; Exhibition</b>	
<b>13:00-14:00</b>	<b>Cocktail Lunch - Poster Session &amp; Exhibition</b>	
14:00-14:30	<b>Kostas Kostarelos</b> (The University of Manchester, UK) Graphene oxide nanoscale platforms for deep tissue translocation within the tissue microenvironment of glioblastoma	K
14:30-15:00	<b>Vincent Bouchiat</b> (Grapheal, France) Monolayer Graphene on polymer as a material for combining therapy and diagnostic in-vivo: from basic science to medical applications	K
15:00-15:20	<b>Neus Lozano</b> (ICN2, Spain) How to Transform a Novel 2D Nanomaterial in 'Medical Grade'	I
15:20-15:50	<b>Giuseppe Battaglia</b> (IBEC, Spain) The phenotypic association theory and its application in nanomedicine design	K
15:50-16:05	<b>Daniel Gonzalez Carter</b> (IBEC, Spain) A new paradigm to identify brain targeting peptides	O
16:05-16:20	<b>Elisabet González Mira</b> (Institute of Materials Science of Barcelona, CSIC, Spain) Advancing a new nanomedicine for Fabry disease treatment towards clinical translation	O
16:20-16:35	<b>Zeynep Firtina Karagonlar</b> (Izmir University of Economics, Turkey) Antibiofilm and antibacterial activity of Ag-intercalated Tm <sup>3+</sup> /Er <sup>3+</sup> co-doped layered perovskites and their exfoliated 2D nanosheets	O
16:35-16:50	<b>F. Pinar Gordesli Duatepe</b> (Izmir University of Economics, Turkey) Hydrogen-Bonding and Long-Range Interactions Involved in the Initial Attachment of Biofilm-Dispersed Escherichia coli and Bacillus subtilis	O
<b>16:50-17:20</b>	<b>Coffee Break, Poster Session &amp; Exhibition</b>	

17:20-17:50	<b>Danny Porath</b> (The Hebrew University of Jerusalem, Israel) Molecular Electronics with DNA towards DNA Detection	K
17:50-18:10	<b>Marilena Hadjidemetriou</b> (University of Manchester, UK) Nano-omics: nanotechnology-enabled harvesting of blood-circulating biomarkers	I
18:10-18:25	<b>Juan Elezgaray</b> (CRPP, CNRS UMR 5130, France) Detection of short nucleotides with DNA nanopores	O
21:00	<b>Conference Dinner - Restaurant CAN CORTADA, Barcelona – Spain - <a href="#">More info</a> <a href="#">Map</a> - 5 minutes walking from the underground stop "Valldaura" (green line nº03)</b>	

## Wednesday November 23, 2022

09:00-09:30	<b>Lital Alfonta</b> (Ben-Gurion University, Israel) Genetic code expansion in biosensing and tissue engineering	K
09:30-09:50	<b>Akash Bachhuka</b> (University Rovira i Virgili, Spain) Nanoengineered Surfaces for modulating cellular responses and sensing applications	I
09:50-10:05	<b>Alejandro Hernández-Albors</b> (ITENE, Spain) Nanobiosensor devices for environmental quality assessment as containment systems	O
10:05-10:20	<b>Sara Gullace</b> (Université de Strasbourg- ISIS, France) MoS2 Defect Healing for High-Performance Sensing of Polycyclic Aromatic Hydrocarbons and Mercury Ions	O
<b>10:20-11:00</b>	<b>Coffee Break, Poster Session &amp; Exhibition</b>	
<b>11:00-12:30</b>	<b>Parallel Session Phd Student I (Topics: Bio-Inspired nanotechnologies, Bioelectronics, Drug Delivery, Integrated Systems / Sensors)</b>	
11:00-11:10	<b>Bárbara Borges Fernandes</b> (Institute for Bioengineering of Catalonia (IBEC), Spain) Porated liposomes: towards new nanomotors model	O
11:10-11:20	<b>Marc Navarro Pons</b> (Institute of Microelectronics of Barcelona (IMB-CNM, CSIC), Spain) Novel piezoelectronic microdevice for electrical cell stimulation	O
11:20-11:30	<b>Laura Lefaix Fernández</b> (Microelectronics Institute of Barcelona (IMB-CNM, CSIC), Spain) Different size microdevices with nanostructured ZnO integrated for electrical cell stimulation	O
11:30-11:40	<b>Daniel Rodríguez Ajamil</b> (Tel Aviv University, Israel) Design of targeted PLGA-SO3 Nanoparticles encapsulating PARP and PD-L1 Inhibitors for BRCA-mutated breast cancer therapy	O
11:40-11:50	<b>Feng Li</b> (University of Vienna, Austria) Inhaled amorphous drug nano- particle formulations of BTZ043 to improve tuberculosis treatment	O
11:50-12:00	<b>Fatemeh Rajabasadi</b> (IFW dresden, Germany) 4D-printed multifunctional microcarriers for passive and active cargo delivery	O
12:00-12:10	<b>Marta Delga Fernandez</b> (Catalan Institute of Nanoscience and Nanotechnology, Spain) Towards a universal biosensing platform based on graphene/pyrene surfaces for neurotransmitters	O
12:10-12:20	<b>María Navalón</b> (Quimic de Sarrià (IQS), Universitat Ramon Llull (URL), Spain) Tailoring carriers for specific applications by unveiling the role of individual components in pBAE/polynucleotide polyplexes: on road to rational formulations	O
12:20-12:30	<b>Soroush Laleh</b> (IFW dresden, Germany) A low cost, versatile and portable impedimetric biosensor for SARS-CoV-2 detection	O
<b>11:00-12:30</b>	<b>Parallel Session Phd Student II (Topics: Nanobioanalysis in vitro, NanoBioSensors, Nanomaterials for Bio and Medical Applications, NanoMaterials for Medicine)</b>	
11:00-11:10	<b>Jorge Ordoyo</b> (University of the Basque Country (UPV/EHU), Spain) Bioactivity of PDGF-BB-loaded NLCs after sterilization with gamma or beta radiation	O

11:10-11:20	<b>Massimo Urban</b> (Catalan Institute of Nanoscience and Nanotechnology (ICN2), Spain) Upgrading nanobiosensing platforms: comparison between different inkjet printed biosensors for detection of Neutrophil Gelatinase Associated Lipocalin-2 (NGAL)	O
11:20-11:30	<b>José Marrugo-Ramírez</b> (Catalan Institute of Nanoscience and Nanotechnology (ICN2), Spain) Nanobiosensing of Small Molecules: Challenges and Prospects for Molecular Imprinting	O
11:30-11:40	<b>Gabriel Maroli</b> (Catalan Institute of Nanoscience and Nanotechnology (ICN2), Spain) Challenges of printing on Mussel-Inspired free-standing films as Artificial biosensing Skin	O
11:40-11:50	<b>Celia Fuentes Chust</b> (Institut Català de Nanociència i Nanotecnologia, Spain) Aptamer displacement Lateral Flow assay for Phenylketonuria monitoring	O
11:50-12:00	<b>Gabriela Guedes</b> (CIC biomaGUNE, Spain) Protein-stabilized nanomaterials as novel MRI contrast agents	O
12:00-12:10	<b>Ivana Cavaliere</b> (Catalan Institute of Nanoscience and Nanotechnology (ICN2), Spain) Encapsulation of magnetic nanocubes in core shell polymeric nanoparticles for their application in hyperthermia	O
12:10-12:20	<b>Clara Baldari</b> (Università del Salento, Italy) Biomimetic Nanoparticles for Cancer Target Immunotherapy	O
12:20-12:30	<b>Cláudio Ferro</b> (University of Lisbon, Portugal) Anticancer properties of selenium nanoparticles encapsulated by oncolytic virus capsids	O
<b>Plenary</b>		
12:30-12:45	<b>Shabnam Nisha</b> (Palacký University, Czech Republic) Effect of CeO <sub>2</sub> NPs of varying Ce <sup>3+</sup> and Ce <sup>4+</sup> content on Chlamydomonas reinhardtii under high light stress	O
12:45-13:00	<b>Salvador Moncho Escrivá</b> (ProtoQSAR, Spain) NanoQSAR models on the toxicity of quantum dots	O
13:00-13:15	<b>Özge Sağlam</b> (İzmir University of Economics, Turkey) In Vitro Cytotoxicity of Upconverting Tm/Er Co-Doped Layered Perovskite and their Nanosheets	O
13:15-13:30	<b>Lucila Maiorano</b> (University of Alicante, Spain) Guefoams: A new concept of filter media for water bacterial removal	O
<b>Lunch</b>		
14:45-15:15	<b>Lluis F. Marsal</b> (Universitat Rovira i Virgili, Spain) Tamm resonances in nanoporous anodic alumina photonic structures for sensing applications	K
15:15-15:45	<b>Beatriz Prieto-Simon</b> (ICREA/URV, Spain) Layered carbon-stabilised porous silicon nanostructures to build electrochemical sensors	K
15:45-16:05	<b>Giulio Rosati</b> (ICN2, Spain) Inkjet printing of nanobiosensors: limits, challenges, and opportunities	I
16:05-16:20	<b>Ondrej Kaman</b> (FZU - Institute of Physics of the Czech Academy of Sciences, Czech Republic) Gold nanoshells with silica-coated magnetic cores for multimodal imaging and sensing	O
16:20-16:50	<b>Dekel Rosenfeld</b> (Tel Aviv University, Israel) Controlling cell signaling using magnetic nanoparticles and alternating magnetic fields	K
<b>Coffee Break, Poster Session &amp; Exhibition</b>		
17:30-18:00	<b>Jose Antonio Garrido</b> (ICREA/ICN2, Spain) Opportunities and Challenges of Graphene Neurotechnology in Neuroscience and Medical Applications	K
18:00-18:30	<b>Zvi Yaari</b> (The Hebrew University of Jerusalem, Israel) AI-Guided Optical Sensors for The Early Detection of Gynecologic Cancers	K
18:30-18:45	<b>Loretta del Mercato</b> (Institute of Nanotechnology (CNR-Nanotec), Italy) 3D sensing platform for single cell extracellular pH mapping in time and space: a pre-clinical model to study tumor microenvironment and drug screening	O

18:45-19:05	<b>Attilio Marino</b> (IIT, Italy) Innovative 3D microfluidic brain tumor-on-a-chip systems: design, characterization, and preliminary testing with chemotherapy drug-loaded nanocarriers	I
19:05-19:20	<b>Ilaria Elena Palamà</b> (CNR-Institute of Nanotechnology, Italy) Safe and efficient modular nanovectors for gene/drug delivery in precision medicine	O

## Thursday November 24, 2022

09:00-09:20	<b>Behnam Akhavan</b> (University of Newcastle, Australia) Plasma Engineered Nanomaterials for Bio and Medical Applications	I
09:20-09:40	<b>Inma Ratera</b> (ICMAB, Spain) Radical-based Nanoparticles with Advanced Optical Properties for Biological Applications	I
09:40-09:55	<b>Margarita Apostolova</b> (Roumen Tsanev Institute of Molecular Biology - BAS, Bulgaria) Novel nanostructured materials accelerating osteogenesis	O
09:55-10:10	<b>Iris Batalha</b> (Institute for Bioengineering of Catalonia (IBEC), Spain) Return of the Jedi: Fighting Antimicrobial Resistance with Nanobiotics	O
<b>10:10-10:45</b>	<b>Coffee Break, Poster Session &amp; Exhibition</b>	
10:45-11:00	<b>Ana Belen Davila Ibañez</b> (Joint Unit Roche-Chus, Spain) Novel application of lipid nanoemulsions in breast cancer	O
11:00-11:15	<b>Vega Lloveras Monserrat</b> (ICMAB CISC: Institut de Ciència de Materials de Barcelona, Spain) MRI tumour detection using metal-free radical dendrimers as contrast agents	O
11:15-11:30	<b>Annalisa Calo</b> (IBEC-UB, Spain) Spatial mapping of biophysical properties in human cells and tissues by scanning probe microscopy (SPM)	O
11:30-11:45	<b>Rosario Núñez</b> (Instituto de Ciencia de Materiales, Spain) Boron clusters-based systems for molecular imaging and BNCT	O
11:45-12:15	<b>Aurelie Bessiere</b> (University of Montpellier, France) PERsistent Luminescence (PERL) nanoparticles for small animal in vivo bioapplications	K
12:15-12:30	<b>Mathilde Menard</b> (ICGM, France) Nanocasting template synthesis of porous persistent luminescent nanoparticles for PDT	O
12:30-13:00	<b>Moran Frenkel-Pinter</b> (The Hebrew University of Jerusalem, Israel) Structure-Function Guided Fabrication of Biodegradable RNA-Binding Polymers	K
13:00-13:15	<b>Andreu Blanquer Jerez</b> (Universitat Autònoma de Barcelona, Spain) Piezoelectric membranes to enhance skin regeneration	O
13:15-13:45	<b>Daniel Ruiz-Molina</b> (ICN2-CSIC, Spain) Intranasal Administration of Novel Nanocarriers for Glioblastoma treatment	K
13:45	<b>Concluding remarks</b>	