



SBAN

Spanish Conference
on Biomedical Applications
of Nanomaterials

19-20th Sept
2024

Instituto de Ciencia
de Materiales de
Madrid

Institutional collaborators



Sponsors



Thursday, 19th of September

Speaker	Title
8:30 Registration at ICMM, Campus Cantoblanco	
9:00 SBAN Organizers	Presentation
<i>Chairperson: Gorka Salas</i>	
9:15 Anna Laromaine	Bacterial Nanocelluloses exploited from a versatile scaffold to a dietetic fiber
DIAGNOSTICS	
9:45 Irene Zabala Gutiérrez	PEGylated Ag2S Nanoparticles Fluorescence for Pharmacokinetics Tracking
10:00 Jose A. Céspedes Lagos	Innovative Dendrimer Magnetic Nanoparticles for Precise Specific IgE Detection of Penicillins
10:15 Juan L Paris	Protein G'-grafted mesoporous silica nanoparticles as a serum pre-treatment system for in vitro allergy diagnosis: comparison of ImmunoCAP® fluorescence enzyme immunoassay and radioallergosorbent test.
10:30 Pablo Torres Fernández	Study on the Activation Mechanisms of Basophils Using Different Nanoarchitectures to Enhance Sensitivity in the Assessment of Allergic Reactions to Clavulanic Acid
10:45 Julieta Lucia Baciredo	Nano-based lab on a chip approaches for detecting high-risk HPV-associated oropharyngeal cancers in liquid biopsies.
10:50	<i>Conference picture taken</i>
11:00 COFFEE BREAK	
<i>Chairperson: Helena Gavilán</i>	
CANCER	
11:30 Alejandro Paredes	Nanocrystals and their journey from a drug dissolution-enhancing technology to their use as highly loaded nanovectors
12:00 Aitor Herraiz	Glioblastoma brain tumor therapy with a novel ⁶⁷ Ga/ ¹⁷⁷ Lu-IONP nanotracer.
12:15 Ana Nuño Soriano	Evaluating Immunogenic Cell Death to improve Immunotherapy
12:30 Andrés París Muñoz	Microwave-synthesized iron nanoparticles to improve CAR T cell-based immunotherapies for solid tumors
12:45 Javier Domingo Díez	Effect of Photothermal Therapy with Gold Nanoparticles Conjugated with Hyaluronic Acid in an Intracranial Murine Glioblastoma Model.
13:00 Jorge Luis Cholula-Díaz	Antitumor activity of bimetallic silver/gold nanoparticles against MCF-7 breast cancer cells
13:15 Sandra Jiménez Falcao	New hope for solid tumors cure: extracellular matrix degradation powered by liposomal nanovehicles
13:20 Zhila Shaterabadi	Self-assembly of magnetite nanorods to the multicore state: significant enhancement of magneto-photothermal efficiency
13:25 LUNCH BREAK	
<i>Chairperson: Ana Espinosa</i>	
DRUG DELIVERY	
14:30 Daniel García González	Neomag: Soft magnetic substrates for 2D and 3D in-vitro assays
15:00 Alberto Galindo Caballero	Enhanced anticancer activity of periodic mesoporous organosilicas based on Sn(IV) bis-organosilane complexes
15:15 Alejandro Baeza García	Multitasking protocells in neuroblastoma therapy: selective tumor cell and macrophages eradication
15:30 Andrés Ramos-Valle	In vivo treatment of melanoma with FdU10@SiO2 particles directed towards tumor neovasculature
15:45 Mónica L. Fanarraga,	Valuable biomedical carbon dots from dairy waste
16:00 Mario Martinez	Stimuli-Responsible Albumin-Based Nanotherapeutics
16:05 Metrohm	Impingement Jets Mixing Systems: A Scalable Versatile LNP - Formulation Platform
16:15 Iñigo Zabalía García (IESMAT)	Técnicas de Caracterización en el Aplicaciones Biomédicas de Nanomateriales
16:25 POSTER SESSION + COFFEE	
17:30	End of the session

Speaker		Title
<i>Chairperson: Ana González Paredes</i>		
9:00	Susel del Sol	Remote modulation of cellular functions by magneto-mechanical and magneto-thermal switches
OTHER APPLICATIONS		
9:30	Carlos Díaz-Ufano Matesanz	Stability evaluation of coated zero-valent iron nanocatalysts through reactive oxygen species detection using electron paramagnetic resonance
9:45	Eva María Arroyo-Urea	Lipid nanoparticles for inhibiting <i>Pseudomonas aeruginosa</i> biofilm formation in cystic fibrosis patient-mimicking environment
10:00	Rafael Herrera Aquino	Tuning the Anisotropy of Iron Oxide Nanoflowers Prepared by a Microwave-Assisted Polyol Synthesis
10:15	Rafael J. Jiménez Riobóo	Optical spectroscopies to characterize diseased cardiac tissue
10:30	Yilian Fdez-Alonso	Reversible alignment of iron oxide nanoparticles during exposure to an AC magnetic field
10:45	Amira Páez Rodríguez	Role of size on the evolution of chains formed by magnetic nanoparticles under an applied magnetic field.
11:00	Eva Romaní Cubells	Magnetically modified-mitoxantrone mesoporous organosilica drugs: an emergent multimodal nanochemotherapy for breast cancer
11:15	BRUNCH + POSTER SESSION	
<i>Chairperson: Lucía Gutiérrez</i>		
12:00	Rosario M. Sánchez-Martín	Active-Targeting Nanoplatforms for Cancer Diagnosis
12:30	Esther Benayas Martín	Graphene oxide foams promote neural regeneration in thoracic transected rats
12:45	Leyre Bei Fraile Aguirre	Magnetic nanoparticles distributions on rigid substrates: a radio frequency study for biosensing applications
12:50	Neus Daviu Bou	Screening of the antiviral potential of different Iron Oxide Nanoparticles against Influenza A and SARS-CoV-2 viruses
12:55	Vicente Llorente	White And Clearing: New Optical Tissue Clearing Method
13:00	liyan Ming	Luminescence-enabled three-dimensional temperature mapping
Puerto Morales		Closing remarks

Presenting Author	Title
CANCER	
P1	Alberto Irigaray Moreno Anti-tumour activity of Iron Oxide Nanoparticles: Contribution to Oxidative Stress induction
P2	Esther Loscertales Exploring the radiosensitizing impact of gold nanoparticle formulations
P3	Lucia Pardinas del Aguila Development of biocompatible magnetoplasmonic nanoparticles with potential utility in biomedical applications
P4	Nicol Caetano Zeballos Unlocking the Potential of Gold Nanostars in Biomedical Applications
P5	Raúl Magro Hernández Synthesis and Characterization of Platinum Nanoparticles for Biomedical Applications
P6	Shayamita Ghosh, Metastasis melanoma inhibition by iron carbide NPs targeting the Tumor microenvironment
DIAGNOSTICS	
P7	Andrea Rodríguez San Pedro Iron oxide nanoparticles for positive contrast in Magnetic Resonance Imaging (MRI)
P8	Jose Antonio Cespedes Lagos Cutting-edge Amoxicilloyl-Decorated Nanoparticles Effectively Activate Basophils of Amoxicillin-Allergic Patients
P9	M Victoria Cano Cortés Development of a Mass Cytometry Diagnostic Assay Using Single Domain Antibodies Targeting Novel Tumor Biomarkers
P10	Rafael Morales Márquez Synthesis and application of Au and Ag ₂ S nanoparticles platforms for combined hyperthermia therapy and cellular temperature monitoring.
P11	Teresa Valero EV biomarker affinity capture platforms for nanodiagnostics
SENSORS	
P12	Ana Rodríguez Ramos Enhancing magnetoinductive sensing in lateral flow immunoassays with superparamagnetic nanoflowers
P13	Leyre Aldaz Caballero Copper Indium Sulfide Quantum Dots for Measuring Forces in the nano-Newton Range
P14	Marina Paris Ogayar Intracellular spectroscopy of infrared emitting gold nanoclusters
P15	Peijiang Wang Optimizing Brightness of Ag ₂ S Nanocrystals
DRUG DELIVERY	
P16	Ana M. Pérez Moreno Nanoparticles for allergen specific immunotherapy: in vitro study comparing mesoporous silica nanoparticles and cubosomes
P17	DARIA LEBED Mesoporous organosilica nanomedicines based on antitumour Sunitinib for the treatment of kidney cancer
P18	Diana Fernandes de Sousa Rafael Design and Pre-Clinical Validation of a Biopolymer-based Hydrogel Platform for the Sustained Release of Docetaxel-loaded Nanoparticles for Local Cancer Therapy
P19	Fernanda Andrade CD300f-derived F7 Peptide: a Catalyst of Drug Delivery Across Biological Barriers
P20	Guillermo González Salso Immunoregulatory microRNA-based Nanosystems in the systemic activation of effector T-cell immune responses
P21	Jorge Parra Nieto Unraveling the internalization mechanism of protocells in neuroblastoma cells
P22	Leticia Sánchez Uriel Optimization of an electroporation system for loading therapeutic nanoparticles into extracellular vesicles
P23	Marta Leo Barriga Rational design of nanostructured lipid carriers for the treatment of bacterial biofilms
P24	Pegah Sanjama Enhancing Dermal Delivery of Hydrophobic Drugs with Thermoresponsive Nanogels Crosslinked by Polyglycerol-Functionalized β -Cyclodextrins
NEUROLOGICAL APPLICATIONS	
P25	Andrea Ferreras Rodríguez Design of immuno-active nanocarriers for neural repair
P26	Belén Cortés-Llanos Cellular Magnetic Stimulation with Iron Oxide Nanoparticles
P27	Célia Tavares de Sousa Biocompatible Magnetic Nanoparticles for Stroke Research
P28	Elena Fernández Cortés NANOSTROKE: New preclinical model of ischemic stroke using ferromagnetic nanoparticles and magnetic microdevices.
P29	Gaurav Kulkarni Optimization and Role of Low Voltage Electrical Stimulation in Cell Recovery After Excitotoxic Injury
P30	Luna Pérez Troncoso Effect of electrical stimulation on stem cells secretion
P31	Marius Cristian Marinel Nanostructured Electrodes Control the Introduction of Reactive Oxygen Species and Enhance Recovery of Adult Neurons After Excitotoxicity
OTHER APPLICATIONS	
P32	Alejandro Hernández Medel Langmuir-Blodgett films of Janus Particles for biomedical applications
P33	Ángela Fernández Cobo Pd-based mesoporous SiO ₂ nanocatalysts for biorthogonal chemistry
P34	Helena Berreiros Hortalá Development of a high-sensitivity method for the detection of hidden allergens in complex samples
P35	Jesús García Gutiérrez Self-Healing Injectable Magnetic Hydrogels for Regenerative Medicine
P36	Juan Alejandro Ruperti Repilado Synthesis of a Self-Assembling Peptide System for Fibroblast Retention and Prevention of Migration to Lung Tissue
P37	Miriam Granado García Silver Sulfide (Ag ₂ S) nanoparticles enhance hyperthermia-induced lipolysis in mature adipocytes, adipose tissue explants and in an in vivo model of obesity in mice
P38	Mónica Rodriguez Segura Development of Efficient Copper Nano-Catalysts for Biological Applications