

## Tuesday April 25, 2023

08:00-08:45	<b>Registration</b>
08:45-09:00	<b>Opening Ceremony</b>
09:00-09:30 KEYNOTE	<b>Adrian Bachtold</b> (ICFO, Spain) Manipulating nanotube mechanical resonators with single-electron tunneling
09:30-10:00 KEYNOTE	<b>Jan Macak</b> (University of Pardubice and BUT, Czech Republic) Recent Advancements in Development of Anodic TiO <sub>2</sub> Nanotube Layers
10:00-10:15 ORAL	<b>Ana Serrano-Lotina</b> (CSIC - Institute for Catalysis, Spain) Microwave-Assisted Flow Synthesis of Nano-confined Pt in Titania Nanotubes (Pt-TiNT) photocatalysts
10:15-10:30 ORAL	<b>Ruy Sanz</b> (National Institute for Aerospace Technology (INTA), Spain) PEEK Nanostructures and Nanocomposites obtained by Hot Embossing into TiO <sub>2</sub> nanotube layers
10:30-11:15	<b>Coffee Break / Poster Session</b>
11:15-11:45 KEYNOTE	<b>Ricardo Garcia</b> (ICMM-CSIC, Spain) Interfacial liquid water on graphite, graphene, and 2D materials
11:45-12:00 ORAL	<b>Najib Ben Messaoud</b> (International Iberian Nanotechnology Laboratory, Portugal) Electrochemical detection of reduced graphene oxide in water
12:00-12:15 ORAL	<b>Paula Ferreira</b> (Universidade de Aveiro, Portugal) Flexible piezoelectric materials developed from porous 3D graphite
12:15-12:30 ORAL	<b>Ana Barra</b> (University of Aveiro, Portugal) Eco-friendly synthesis of a porous graphene-like material supported on clay
12:30-12:50 INVITED	<b>Catherine Journet-Gautier</b> (Université Claude Bernard Lyon 1 / CNRS, France) Beyond graphene: how to synthesize hexagonal boron nitride crystals by chemical route
12:50-13:10 INVITED	<b>Pablo Ares</b> (UAM, Spain) Ferroelectricity in hexagonal boron nitride
13:10-13:30 INVITED	<b>Eduardo Ruiz Hitzky</b> (ICMM-CSIC, Spain) MXenes in the world of the 2D-based hybrid nanomaterials
13:30-14:30	<b>Cocktail Lunch (offered by Nanospain2023 organisers)</b>
14:30-15:00	<b>Poster Session I</b>
15:00-15:30 KEYNOTE	<b>Sergio O. Valenzuela</b> (ICREA/ICN2, Spain) Spin-orbit torques in topological insulators of the Bi <sub>2</sub> Te <sub>3</sub> family of materials
15:30-15:45 ORAL	<b>Stefanos Chaitoglou</b> (Universitat de Barcelona, Spain) Hybrid nanostructured compounds of Mo <sub>2</sub> C on vertical graphene nanoflakes for highly efficient hydrogen evolution reaction
15:45-16:00 ORAL	<b>Alessandro Silvestri</b> (CIC biomaGUNE, Spain) Graphene-based smart inks for electroanalysis
16:00-16:20 INVITED	<b>Jose H. Garcia</b> (ICN2, Spain) All-electrical spin control in low-symmetry materials
16:20-16:35 ORAL	<b>Isaac Alcón</b> (Catalan Institute of Nanoscience and Nanotechnology (ICN2), Spain) Engineering of Charge Current Flow in Nanoporous Graphenes
16:35-17:05	<b>Coffee Break / Poster Session</b>
17:05-17:35 KEYNOTE	<b>Ester Vázquez Fernández-Pacheco</b> (UCLM, Spain) New palette of smart materials for soft robotics applications
17:35-18:05 KEYNOTE	<b>Celia Rogero</b> (CSIC-UPV/EHU, Spain) Atomically precise devices: the challenge of nanofabrication
18:05-18:35 KEYNOTE	<b>Marisol Martin</b> (IMN-CNM-CSIC, Spain) Importance of Three-Dimensional Nanowire Networks in Optics, Magnetism, and Energy Harvesting
18:35-18:50 ORAL	<b>Juan Antonio Ruiz Fuentes</b> (Nadetech Innovations, Spain) Adding value to coatings
18:50-19:05 ORAL	<b>Idoia Castellanos Rubio</b> (UPV/EHU, Spain) Thermosensitive Magneto-Fluorescent Nanoplatfoms with Great Heating Power

## Wednesday April 26, 2023

09:00-10:30	<b>Parallel Workshop: European Opportunities for postdoctoral Research</b> <b>David Alcantara</b> (SACIS, Spain)
09:00-09:30 KEYNOTE	<b>Miguel Moreno</b> (DIPC, Spain) Magnetic order in a coherent two-dimensional Kondo lattice
09:30-09:45 ORAL	<b>Geyla Dubed Bandomo</b> (ICIQ, Spain) Development and Mechanistic Study of Mn(CO) <sub>3</sub> Single Sites in 2D-Covalent Organic Frameworks for Electrocatalytic CO <sub>2</sub> Reduction
09:45-10:00 ORAL	<b>Christos Trapalis</b> (NCSR "Demokritos", Institute of Nanoscience & Nanotechnology, Greece) Conversion of CO <sub>2</sub> to High Added Value Nanocarbons
10:00-10:30 KEYNOTE	<b>Eugenio Coronado</b> (UV - Instituto de Ciencia Molecular (ICMol), Spain) 2D Magnetic Heterostructures: from artificial magnets to smart molecular/2D heterostructures
10:30-11:00 KEYNOTE	<b>Frank Koppens</b> (ICREA/ICFO, Spain) Nanocavities, nano-imaging, and quantum technologies with twisted and stacked 2D materials
11:00-11:30	<b>Coffee Break / Poster Session</b>
11:30-11:45 ORAL	<b>Eduardo Araujo</b> (Anton Paar Spain, Spain) Stability of carbon supported platinum particles (Pt/C): Effect of dispersant and pH
11:45-12:00 ORAL	<b>Isabel Gavalda</b> (Izasa Scientific, Spain) State of the art of scientific instrumentation: from Nanocharacterization to Nanofabrication
12:00-12:15 ORAL	<b>Lluís Marsal</b> (URV, Spain) Netpore: COST network on porous semiconductors and oxides
12:15-12:30 ORAL	<b>Robert Christopher Burns</b> (The Porous Silicon Company, Austria) Standardizing Porous Silicon to Enable Cutting Edge Research and High Tech industrial Applications
12:30-12:45 ORAL	<b>Lars Dähne</b> (Surflay Nanotec GmbH, Germany) Low-Q-Whispering Gallery Modes for miniaturization of label free analytics of (bio-) processes on particle surfaces
12:45-13:00 ORAL	<b>María García</b> (Advanced Wave Sensors, Spain) QCMD as a tool for advancing the understanding and application of nanoporous films
13:00-13:15 ORAL	<b>Kari Koski</b> (Beneq Oy, Finland) ALD coatings on nanostructures
13:15-13:30 ORAL	<b>Aldo Girimonte</b> (Novac, Italy) Improvement of supercapacitor technology through better exploitation of active material: Novac's case studies
13:30-15:00	<b>Lunch</b>
15:00-15:15 ORAL	<b>Pilar Aranda</b> (CSIC, Spain) Contribution to the study of the encapsulation of microorganisms (cyanobacteria and yeasts) in clay and silica based matrices
15:15-15:35 INVITED	<b>Artur Pinto</b> (University of Porto, Portugal) New nanomaterials for biomedical applications with focus on phototherapy
15:35-16:05 KEYNOTE	<b>Samuel Sánchez</b> (IBEC, Spain) Nanobots as a new nanotherapeutic modality in biomedicine
16:05-16:35 KEYNOTE	<b>Josep Samitier</b> (IBEC, Spain) Nanoscale properties of odorants and olfactory receptors interaction
16:35-17:15	<b>Coffee Break / Poster session</b>
17:15-17:45 KEYNOTE	<b>Ciro Chiappini</b> (KCL, UK) Nanoneedles for Intracellular Sensing and Delivery
17:45-18:15 KEYNOTE	<b>Giuseppe Barillaro</b> (University of Pisa, Italy) Implantable and bioresorbable chemical sensors for in-vivo tracking of clinical/diagnostic markers
18:15-18:30 ORAL	<b>Anne Parra</b> (Mecwins SA, Spain) Nanosized hydrogel dots for biomarker detection
18:30-19:00 KEYNOTE	<b>Silvia Marchesan</b> (University of Trieste, Italy) Nanocomposite peptide hydrogels: from nanocarbon to gold nanoparticles
21:00-23:00	<b>Conference Dinner - Restaurant Nautic / Edifici Nautic, Moll de Llevant, S/N, 43004 Tarragona (Spain)</b>

## Thursday April 27, 2023

09:00-09:30 KEYNOTE	<b>Javier Garcia de Abajo</b> (ICREA/ICFO, Spain) Nanophotonics with Free Electrons
09:30-10:00 KEYNOTE	<b>Luis M. Liz-Marzán</b> (CIC biomaGUNE, Spain) Plasmonic Chirality in Individual and Assembled Nanoparticles
10:00-10:15 ORAL	<b>Miguel A. Correa-Duarte</b> (CINBIO - Universidade de Vigo, Spain) Hot Spots in Plasmonic Photocatalysis
10:15-10:35 INVITED	<b>Rodrigo Calvo</b> (Mecwins, Spain) Sizing plasmonic nanoparticles with Dark-Field Single Particle Spectrophotometry
10:35-11:00	Coffee Break / Poster session
11:00-11:30 KEYNOTE	<b>Petra Granitzer</b> (Karl-Franzens-University Graz, Austria) Nanostructured Silicon – a Versatile Host Material: Applicable as Biomedical, Magnetic and Optical Material
11:30-12:00 KEYNOTE	<b>Jarno Salonen</b> (University of Turku, Finland) Re-Etched anodized porous silicon: from drug delivery to optical applications
12:00-12:15 ORAL	<b>Dorleta Jimenez de Aberasturi</b> (CICbiomaGUNE, Spain) Hybrid inorganic-organic biofunctional materials for biofabrication
12:15-12:30 ORAL	<b>Bahareh Khezri</b> (ICIQ: Institut Catala d'Investigacio Quimica and URV:Universitat Rovira i Virgili, Spain) 2D-based nano/microswimmers: Towards Biomedical and Environmental Applications
12:30-12:45 ORAL	<b>Sofia Dominguez Gil</b> (Institut Charles Gerhardt Montpellier, France) Functionalized nanoparticles for cancer theranostics
12:45-13:00 ORAL	<b>Pedro Alpuim</b> (INL-International Iberian Nanotechnology Laboratory, Portugal) Brain tumor mutated DNA detection with 2- and 3-terminal graphene devices
13:00-13:30 KEYNOTE	<b>Miguel A. Bañares</b> (CSIC, Spain) Nanoparticle reactivity: a knife with two blades: from their health and safety risk to their use for indoor air microbiological remediation
13:30-14:30	Cocktail Lunch (offered by Nanospain2023 organisers)
14:30-15:00	Poster Session II
Parallel Session PhD Student I (Topic: Nanomaterials)	
15:00-15:10 ORAL	<b>Anna Casadó</b> (Universitat Rovira i Virgili, Spain) Comparison of xylose-derived and glucose-derived carbon quantum dots (CQDs) prepared by microwave-assisted synthesis
15:10-15:20 ORAL	<b>Saman Bagherpour</b> (Universitat de Barcelona, Spain) Development of functionalized microchips for intracellular GSH sensing using BODIPY derivatives as fluorescent probes
15:20-15:30 ORAL	<b>Filipa Campos</b> (i3s, Portugal) Antimicrobial peptide-grafted PLGA-PEG Nanoparticles to Fight Bacterial Wound Infections
15:30-15:40 ORAL	<b>Bruna Costa</b> (FEUP/i3s, Portugal) Dhvar5-Chitosan Nanogels Generated by Microfluidic Fighting Orthopedic Device-Related Infections
15:40-15:50 ORAL	<b>Diana R. Fonseca</b> (INEB/i3s/FEUP, Portugal) An universal one-pot microfluidic system to produce nanoparticles decorated with antimicrobial compounds
15:50-16:00 ORAL	<b>Inna Yusnita Khairani</b> (University of Wuppertal, Germany) Influence of the Ablation Liquid on the Phase and Magnetization of Laser-generated Fe-Ni Nanoparticles
16:00-16:10 ORAL	<b>Deepak Parajuli</b> (Universitat Rovira i Virgili, Spain) Diverse morphologies of amorphous nanostructures by electrospraying
16:10-16:20 ORAL	<b>Jessica Casandra Ramirez de la Torre</b> (ICN2, Spain) Development of multifunctional micro/nanoparticles for environmental remediation
16:20-16:30 ORAL	<b>Jéssica Santos</b> (University of Aveiro, Portugal) Development of porous microwave-acid treated sepiolite /ZnO nanocomposite particles for potential ethylene scavenger application
16:30-16:40 ORAL	<b>Belgacem Tiss</b> (University of Minho, Portugal) Deposition of UV-filter oxide films on cork and rubber – protection to UV radiation and from mechanical wear

## Thursday April 27, 2023

### Parallel Session PhD Student II (Topics: Graphene/nanotubes, Nanobiotechnology, Simulation)

15:00-15:10 ORAL	<b>Pedro Alcázar Guerrero</b> (ICN2, Spain) Spin relaxation in graphene induced by corrugations
15:10-15:20 ORAL	<b>Joaquín Medina Dueñas</b> (ICN2, Spain) Optimal spin-orbit torque in graphene-based devices
15:20-15:30 ORAL	<b>Jorge Estrada-Álvarez</b> (Universidad Complutense de Madrid, Spain) Viscous electron flow in graphene: Why does the geometry change the electrical properties?
15:30-15:40 ORAL	<b>Sara Lois Cerdeira</b> (DIPC, Spain) DFT study of nanoporous graphene filled by heteroatoms as catalysts
15:40-15:50 ORAL	<b>Fernando Sá</b> (University of Aveiro, Portugal) In-situ growth of zinc oxide nanoparticles within porous nanocellulose films
15:50-16:00 ORAL	<b>Jhonatan Rodriguez Pereira</b> (Center of Materials and Nanotechnologies (CEMNAT) - University of Pardubice, Czech Republic) 2D materials by Atomic Layer Deposition: Molybdenum dichalcogenides
16:00-16:10 ORAL	<b>Bahaa Daou</b> (CIC BiomaGUNE and IIS Biodonostia, Spain) CNT-based Hybrid Materials as Nerve Guidance Conduits for Sciatic Nerve Regeneration
16:10-16:20 ORAL	<b>Jose Daniel Bolaños Cardet</b> (Autonomous University of Barcelona, Spain) Bioinspired Antibacterial Catechol-Amine Coatings
16:20-16:30 ORAL	<b>Leonor Resina</b> (Instituto Superior Técnico - University of Lisbon, Portugal) Wireless electrostimulation nanomaterials platform for cancer treatment
16:30-16:40 ORAL	<b>Linda-Sheila Medondjio</b> (ICN2, Spain) Device to materials pathway for electron traps detection in amorphous GeSe-based selector
16:40-17:30	<b>Coffee Break / Poster Session</b>

### Senior Session I

17:30-17:45 ORAL	<b>Salvatore Surdo</b> (University of Pisa, Italy) Acousto-optofluidics for rapid laser-generation of periodic surface nanostructures
17:45-18:00 ORAL	<b>Xiaojiao Yuan</b> (ICIQ, Spain) Copper-functionalized organic semiconductor for electrocatalytic CO <sub>2</sub> reduction
18:00-18:15 ORAL	<b>Ladislav Kavan</b> (J. Heyrovsky Institute of Physical Chemistry, Czech Republic) Tuneable Work Function of SnO <sub>2</sub> and TiO <sub>2</sub> Nanomaterials: Challenges and Applications

### Senior Session II

17:30-17:45 ORAL	<b>Klemens Rumpf</b> (University of Graz, Austria) High Temperature Magnetic Measurements to Investigate Semiconducting/Ferromagnetic Nanocomposites
17:45-18:00 ORAL	<b>Tiago Rodrigues</b> (University of Minho, Portugal) Magnetic and dielectric properties of Electrospun LiNbO <sub>3</sub> -CoFe <sub>2</sub> O <sub>4</sub> Nanofibers
18:00-18:15 ORAL	<b>Rosa Maria González-Gil</b> (Institut Català de la Nanociència i la Nanotecnologia ICN2, Spain) Use of polyoxometalates-based nanomaterials for high energy density hybrid supercapacitors
18:15-18:30 ORAL	<b>Marketa Zukalova</b> (J. Heyrovsky Institute of Physical Chemistry, Czech Republic) Optimization of the composite cathode for Li-sulfur batteries

## Friday April 28, 2023

09:00-09:15 ORAL	<b>Alexander Chizhik</b> (Universidad del País Vasco, Spain) Time-resolved MOKE and GMI effects in Co-rich Amorphous Ribbons
09:15-09:30 ORAL	<b>Laura Karen Acosta Capilla</b> (Universitat Rovira i Virgili, Spain) Tailoring structural engineering of nanoporous anodic alumina photonic structures by pulse anodization
09:30-09:45 ORAL	<b>Monalisa Garai</b> (JKU Linz, Austria) Inhibition of Catalytic Electron Transfer by Coulomb Blockade in Small Au Nanoparticles
09:45-10:15 KEYNOTE	<b>Javier Aizpurua</b> (CFM/CSIC-UPV/EHU-DIPC, Spain) Extreme Nanocavity-Enhanced Molecular Spectroscopy
10:15-11:15	<b>Coffee Break</b>
11:15-11:45 KEYNOTE	<b>Jose G. Sanchez</b> (ICREA/ICIQ, Spain) Molecular solar cells: From Dyes to Hybrid Semiconductors
11:45-12:15 KEYNOTE	<b>Julien Bachmann</b> (Friedrich-Alexander-Universität, Germany) Atomic-layer approaches towards 'extremely thin' chalcogenide- based photovoltaics: A unique combination of advantages
12:15-12:30 ORAL	<b>María Del Pilar Montero Rama</b> (Universitat Rovira i Virgili, Spain) Enhancement Strategies for Stability and Efficiency of Perovskite Solar Cells
12:30-12:45 ORAL	<b>Alejandro R. Goñi</b> (Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain) Understanding the Temperature Dependence of the Gap in Bulk and Nanocrystalline Hybrid Perovskites
12:45-13:00 ORAL	<b>Antonio Garcia-Martin</b> (Instituto de Micro y Nanotecnología - CSIC, Spain) Nanostructure strategies towards performance-enhanced perovskite solar cells
13:00-13:15 ORAL	<b>Osbel Almora</b> (Universitat Rovira i Virgili, Spain) Debye length domain for ion migration in metal halide perovskites for X-ray detection
13:15-14:45	<b>Lunch</b>
14:45-15:15 KEYNOTE	<b>Danny Porath</b> (The Hebrew University of Jerusalem, Israel) Molecular Electronics with DNA towards Detection of Nucleic Acids
15:15-15:45 KEYNOTE	<b>Vladimir A. Baulin</b> (URV, Spain) Direct translocation through lipid bilayers: design challenges and solutions
15:45-16:00 Oral	<b>Jordi Fraxedas</b> (ICN2-CSIC-BIST, Spain) Nafion-based micromotors in water: fundamentals and collective motion
16:00-16:20 INVITED	<b>Katherine Villa Gomez</b> (ICIQ, Spain) Anisotropic photocatalytic micromotors for environmental remediation
16:20-16:40 INVITED	<b>Carla Casadevall</b> (URV/ICIQ, Spain) Carbon-based Materials for Solar-driven Catalysis
16:40	<b>Closing</b>