

Format:

✓ JPhD2023 will have...

Plenaries**Orals and Poster session****Roundtables****Talks of Multidisciplinary topics in single and parallel sessions at:**

Sala d'Actes Carles Miravittles (room 1) + Matgas (room 2)

Main topics:

- Energy and Environment.
- Electronics and Nanofabrication.
- Bioapplications in Medicine.
- Nanomaterials and Magnetism.
- Synthesis and Characterization.

- ✓ The talks will be in **English**.
- ✓ **Orals (PhDs):** 8 min (presentation) + 2 min (for questions), approximately.
- ✓ **Plenaries** for each topic: 1 h + A **talk by MDPI publisher** company (30 min)

Main speakers:

- Prof. **Jordi Arbiol**
- Dr. **Maria Bernechea Navarro**
- Dr. **Lucia Aballe**
- Elisabetta Dimaggio**
- Dr. **Anna Laromaine**

- ✓ **2 Roundtables in parallel sessions for PhDs:**

Topics: **Planning your career** (hosted by Alejandro Gómez)**And now what, Industry or Academia?**

- **Thought** for early and last stage PhDs
- A **space of interaction, experience sharing and fruitful discussion** with the **guest speakers**

- ✓ **Coffee breaks** to rest a little bit, eat and drink.
- ✓ And a **beer tasting** (for those who wish).
- ✓ **Last day: Visit to ALBA synchrotron.**

June 7th

8:30-9:00

Registration

Electronics and Nanofabrication (Room 1 and 2)

9:00-09:45

Elisabetta Dimaggio,

Assistant Professor at University of Pisa

"1D & 2D material - based electronics for energy harvesting and sustainable technology"

Theoretical Modeling (Room 2)

Chairperson: Francesco Salutati

Fabrication and Characterization (Room 1)

Chairperson: Jessica Ramirez

09:45-09:55

Saptam Ganguly

"Enhanced photostrictive actuation in freestanding ferroelectric membranes."

Xueliang Lyu

"Epitaxial stabilization of ferroelectric Hf_{0.5}Zr_{0.5}O₂ thin films."

09:55-10:05

Mohammadmir Ghasemishabankareh

"Investigating the Use of Fresnel Lens and Holographic Structured Metamaterials with different materials in COMSOL for enhancing ultrasound focusing for Imaging purposes."

Thomas Günkel

"Voltage induced changes in LSMO-YBCO heterostructures for novel memristive devices."

10:05-10:15

Manel Mas Martín

"Electrothermal modeling of Mo/Au Transition-Edge Sensors."

Philipp Langner

"An oxygen-ion all-solid-state synaptic transistor with efficient energy consumption for low temperature applications."

10:15-10:25

Umair Saeed

"Free Standing Antiferroelectric membrane capacitors: Avenue for high efficiency Silicon integrated electronics."

Carolina Duque Sierra

"Electrospun-based SiGe nanotubes for thermoelectric applications."

10:25-10:35

Ismael Babeli Aguilera

"3D printing for SOFC/SOEC applications."

Maria Elisabetta Giglio

"Charge-Transfer Complexes: Implementation in solution-processed Organic Field-Effect Transistors."

10:40-11:15

Roundtable:

Planning your career

- Alejandro Gómez, Senior Researcher at ICN2
- Alba Garzón Manjón, Senior Researcher at ICN2

- María Cabello, InBrain Researcher
- Gabriel Martínez, MDPI

11:15-11:45

Coffee break

Bioapplications in Medicine (Room 1 and 2)

11:45-12:30

Anna Laromaine,
Researcher at ICMAB

“Harnessing the Power of C. elegans for Nanoparticle Innovation and Progress”

Sensors (Room 2)

Chairperson: Helena Rabelo

Therapy (Room 1)

Chairperson: Aritz Lafuente

12:30-12:40

Marc Domingo Cabasés

*“Effect of surfactants on SARS-CoV-2:
Molecular dynamics
Simulations”*

Jose Daniel Bolaños Cardet

*“Bioinspired Antibacterial Catechol-Amine
Coatings”*

12:40-12:50

Razia Batool

*“Biomimetic Nanoplasmonic sensor for the
evaluation of COVID-19 antiviral
immunotherapy”*

Noelia Hernández Lobato

*“Graphene oxide-based model platform for
vaccine development”*

12:50-13:00

María Jesús Ortiz Aguayo

*“Electrolyte gated organic field – effect
transistor for point-of-care
Tests”*

Despoina Despotopoulou

*“Engineering versatile graphene oxide-based
nanoplatforms for
Immunomodulation”*

13:00-13:10

Denise Marrero

*“Organ-on-a-chip with integrated
semitransparent organic
electrodes for barrier function monitoring”*

Carla Castellar Álvarez

*“DELOS nanovesicles-based hydrogels as promising
subcutaneous drug
delivery systems”*

13:10-13:20

Laura Lefaix Fernández

*“Integrated ZnO piezoelectric nanostructures
in microdevices for
wireless electrical cell stimulation”*

Marta Alcaina Hernando

*“New plant-based nanovesicles based on alkyl
polyglucosides
surfactants and β -sitosterol as topical drug delivery
systems”*

13:20-13:30

Marc Navarro Pons

*“Aluminum Nitride resonant MEMS for
bioelectronic
Microdevices”*

Carla Riera-Llobet

*“Adaptative Computation Techniques in Proton
therapy”*

13:30-13:40

Nanthilde Malandain

“Composite hydrogels based on decellularized

		<i>extracellular matrix and cellulose</i>
13:45-14:15	MDPI Gabriel Martinez <i>"MDPI Open Access & Peer Review process"</i>	
14:15-15:15	Lunch	
Energy and Environment (Room 1 and 2)		
15:15-16:00	Maria Bernechea, Senior Researcher (ARAID) <i>"Colloidal Nanosemiconductors for Energy and Environment"</i>	
	Energy (Room 1) <i>Chairperson: Jing Yu</i>	Environment (Room 2) <i>Chairperson: Marc Botifoll</i>
16:00-16:10	Chao Yue Zhang <i>"Metal-Sulfur Batteries with High Performance Enabled by Ferromagnetic Catalytic Additives through Magnetically Induced Spin Polarization"</i>	Houyem Trabelsi <i>"Electrochemical behavior of zinc and cadmium complexes in solution with bidentate organochalcogenophosphorus ligands."</i>
16:10-16:20	Ashitha Paingott Parambil <i>"Surface Functionalized MXene-based Halide Perovskite Solar Cells"</i>	Jessica Casandra Ramirez <i>"Development of multifunctional micro/nanoparticles for environmental remediation"</i>
16:20-16:30	Aureliano Macili <i>"Synthesis of New Ni Nanostructures via the Organometallic Approach and Their Applications in Energy-Relevant Processes"</i>	Mario Herrero Cervera <i>"Unraveling the role of a plant immune cell death marker ATPase"</i>
16:30-16:40	Fanny Baumann <i>"Monitoring of physical mechanisms acting during perovskite solar cell degradation via in-situ characterization and insights to stabilization when using molecular additives"</i>	Ranit Ram <i>"Cation exchange driven alloy/ heterostructure synthesis using Cu_{2-x}Se nanosheet template"</i>
16:40-16:50	Fjorelo Buzi <i>"A novel air-electrode nanocomposite with enhanced durability for Thin Film Solid Oxide Cells"</i>	Muhammad Adil <i>"Control and operation of Wastewater treatment plants with inclusion of environmental consideration"</i>

16:50-17:00	Kenedy Tabah Tanko <i>"Stability Assessment of Perovskite Solar Cells Under Real Outdoor Conditions: Effect of Encapsulation"</i>	Heting Hou <i>"Ru and Pt-Based Nanomaterials as Electrocatalysts or PhotoCatalysts for the Hydrogen Evolution Reaction"</i>
17:00-17:10	David Batet <i>"Carrageenan-based ink formulations for sustainable screen-printed primary batteries"</i>	Xuesong Zhang <i>"Outperforming catalytic activity of AuxPt1-x nanostructures by a chlorine-assisted synthesis in hydrogen evolution reaction"</i>
17:10-17:20	Miquel Casademont Viñas <i>"RAINBOW Organic Solar Cells: Implementing Spectral Splitting in Lateral Multi-Junction Architectures"</i>	Roger de Paz Castany <i>"Electrodeposited Ni-W coatings for hydrogen evolution reaction in acidic media: insights on electrocatalyst durability"</i>
17:20-17:30	Tehreema Naeem <i>"Electrochromic study of dimethyl terephthalate in green solid media"</i>	
17:30-18:30	1st Poster session + Beer tasting + coffee break (at ICMAB terrace)	

June 8th

8:45-9:00
Registration

Synthesis and Characterization (Room 1)

Chairperson: Darla Mare

9:00-9:45	Jordi Arbiol, ICREA Research Professor <i>"2D Nanostructures at Atomic Scale: From Energy and Environmental Applications to Quantum Devices"</i>
9:50-10:00	Naureen Khanam <i>"Scalable synthesis of ferromagnetic ϵ-Fe₂O₃ nanoparticles for 6G applications"</i>
10:00-10:10	Martí Ramis García <i>"Solution-processed Sr_{3-x}CaxAl₂O₆ sacrificial layer for ex-situ synthesis of freestanding epitaxial oxide membranes"</i>
10:10-10:20	Meritxell Toda i Casaban <i>"Epitaxial growth of perovskite manganite thin films by polymer assisted deposition for spintronic applications "</i>

10:20-10:30	<p>José Catalán Toledo</p> <p><i>“Synthesis and stabilization of liquid metal Eutectic Gallium Indium (EGaIn) nanoparticles with phosphonic acid derivatives in aqueous media”</i></p>
10:30-10:40	<p>Carla Torres</p> <p><i>“Growth of superconducting YBa₂Cu₃O_{7-x} epitaxial layers by TLAG with in-situ synchrotron characterization”</i></p>
10:40-10:50	<p>Marta Ruiz Ruiz</p> <p><i>“Real-time microscopic view of the relaxation of an ultrastable Glass”</i></p>
10:50-11:00	<p>Alejandro Ramo Iurre</p> <p><i>“Study of prussian blue related materials: synthesis, characterization and test as positive electrode for secondary calcium batteries”</i></p>
11:10-11:45	Coffee break
11:45-12:45	<p>Roundtable: Career Perspectives</p> <ul style="list-style-type: none"> - Enrique Vilanova, Project Researcher at ICMAB-CSIC - Adriana R. Kyvik, Cofunder y Technology Lead de B'ZEOS - Damià Viana, InBrain Researcher. - Jordi Arbiol, ICREA Research professor
12:45-14:00	Lunch
<p>Nanomaterials and Magnetism (Room 1)</p> <p><i>Chairperson: Muhammad Adil</i></p>	
14:00-14:45	<p>Lucia Aballe,</p> <p>Senior Researcher at ALBA synchrotron</p> <p><i>“X-ray magnetic micro-spectroscopy of magnetization dynamics driven by surface acoustic waves”</i></p>
14:45-14:55	<p>Shoulong Chen</p> <p><i>“Microstructure and Magnetization Dynamics in La_{2/3}Sr_{1/3} MnO₃ Epitaxial Thin Films”</i></p>
14:55-15:05	<p>Shunya Yan</p> <p><i>“Unexpected Microscopic electrostatic effects in organic semiconductor thin films revealed by KPFM”</i></p>
14:05-15:15	<p>Guilherme Theophilo Telles</p> <p><i>“Topological optimization of a low impedance HTS-Cu coating for particle accelerators beam screens”</i></p>
15:15-15:25	Jaume Cunill-Subiranas

	<i>"Bulk Superconductors for Toroidal Magnetic Confinement: Application for Fusion Magnets"</i>
15:25-15:35	Natanael Bort-Soldevila <i>"Shaping Magnetic Fields and Removing Electromagnetic Forces with Bulk Superconductors"</i>
15:35-15:45	Hugo Gómez Torres <i>"Measurement of heat capacity of MoSe₂ nanoflakes by pulse heating technique"</i>
15:45-15:55	Neil Lamas <i>"A novel method for HTS coating"</i>
16:00-17:00	2nd Poster session
17:00-17:15	Closing Remarks and Awards

June 9th

15:00-16:30	Visit to ALBA
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Poster session

	June 7 th		June 8 th
1	Arianna Quesada <i>"Ellipsometric measurements in organic semiconducting materials for photovoltaics."</i>	14	Milos Manojlovic <i>"Soft X-ray Low Gain Avalanche Detector for Imaging Application."</i>
2	Alba Cazorla <i>"Charge-Transfer Complex Formation in Organic Semiconductor Films and its role in Surface Doping."</i>	15	Èric Bach <i>"Production results and analysis of the ATLAS ITk Strip Sensors Quality Assurance Program"</i>
3	Giulia Pancotti <i>"Synchrotron Circular Dichroism Mapping of Organic Composites."</i>	16	Lorette Fernandez <i>"MOST Characterization and Devices."</i>
4	Meriem Abid <i>"Free Standing Antiferroelectric membrane capacitors: Avenue for high efficiency Silicon integrated electronics."</i>	17	Cheng Liu <i>"Operando Observation of Mechanisms in the MnO₂ Cathode in Rechargeable Aqueous Zn Batteries."</i>
5	Alexander Frebel <i>"Band alignment of BiFe_{0.9}Co_{0.1}O₃ based photovoltaic devices."</i>	18	Paul Nizet <i>"Characterization of a perovskite oxide-based device via optical impedance."</i>
6	Wenjuan Zhang <i>"Theoretical Study of the Catalytic Performance of Fe and Cu Single-atom Catalysts Supported on Mo₂C Towards the Reverse Water-gas Shift Reaction (RWGS)"</i>	19	Nerea Ruiz <i>"Arabidopsis metacaspase MC1 localizes in stress granules, clears protein aggregates and delays senescence"</i>
7	Anna Solé <i>"Theranostic Polymeric Nanocarriers Administered to the Brain and Lungs"</i>	20	Allan Lancéux <i>"Functionalization Of Bacterial Cellulose with Ceria Nanoparticles and Chitosan for Biomedical Applications"</i>
8	Jose Daniel Bolaños <i>"Bioinspired Antibacterial Catechol-Amine Coatings"</i>	21	Liqiong Li <i>Bacterial cellulose-low molecular weight chitosan nanocomposites for biomedical applications"</i>
9	Ariana Rueda <i>"Site-directed conjugation of multivalent protein nanomaterials for cancer targeted therapies"</i>	22	Kevin García <i>"Aligning periodic arrays of 1D topological states with superlattices."</i>

10	<p>Aitor Arreondo <i>"Magneto-ionic effects in mesoporous oxidized Ni-Co alloy electrodeposited films"</i></p>	23	<p>Tommaso Albrigi <i>"Phonon transport across Ge/GaAs heterojunctions by nonequilibrium molecular dynamics"</i></p>
11	<p>Naureen Khanam <i>"Preparation of ϵ-Al_xFe_{2-x}O₃ thin films by chemical solution deposition"</i></p>	24	<p>Esteve Ribas <i>"Filling the pores of nanoporous graphene with atomic precision"</i></p>
12	<p>Alejandro Cuesta <i>"Template-assisted synthesis of 1D van der Waals heterostructures"</i></p>	25	<p>Karen Stefanie Mejía <i>"Cerium-doped Magnetite Nanoparticles: Synthesis, Characterization and Catalytic Activity"</i></p>
13	<p>Aiswarya Kethamkuzhi <i>"Superconducting properties and microstructural characterization of TLAG YBa₂Cu₃O_{7-δ} thin films oxygenated with ozone"</i></p>	26	<p>Ruben García Fontarosa <i>"High-Z nanoparticles for enhanced radiation therapy"</i></p>