



NANO\$ERIES

2nd Annual Conference on Global Nanotechnology

The Highly Anticipated Nanotech Event of the Year for a Sustainable Future

 June 19-21, 2023

 ICMM-CSIC Materials Science Institute
of Madrid | Madrid, Spain

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(#NanoSeries2023)

#NanoSeries2023 Agenda Snapshot

Day 1, 19th June-2023		Day 2, 20th June-2023 (The Start timing has been updated)		Day 3, 21st June-2023	
Main Conference Room	Seminar Hall	Main Conference Room	Seminar Hall	Main Conference Room	Seminar Ha
Prof. Hongjie Dai Plenary Talk (09:10-09:45)		Prof. Dr. Jordi Arbiol Plenary Talk (09:35-10:10)		NanoSeries ECR Session (09:00-11:00)	Prof. Ben Zhong TANG P (09:00-09:35)
Prof. Sumio Iijima Plenary Talk (09:45-10:20)					Bio-Nano Symposiu (09:35-11:00)
Networking Coffee Break@Posters Area (10:20-10:50)		Networking Coffee Break@Posters Area (10:10-10:35)		Networking Coffee Break (11:00-11:25)	
Prof. Emilio Perez Keynote Talk (10:50-11:15)	Bio-Nano Symposium-I (10:50-13:30)	NanoSeries Symposium-III(A) (10:35-12:35)	NanoSeries Symposium-IV (10:35-13:10)	NanoSeries ECR Session (11:25-13:25)	Bio-Nano Symposiu (11:25-13:25)
NanoSeries Symposium-I (11:15-13:35)		Prof. Andrea C. Ferrari Plenary Talk (12:35-13:10)			
Networking Lunch Break@Posters Area (13:35-14:50)		Networking Lunch Break@Posters Area (13:10-14:15)		Networking Lunch Break (13:25-14:30)	
ICMM-CSIC LAB TOURS (14:50-16:00)		Prof. Ramon Aguado Keynote Talk (14:15-14:40)	NanoSeries Symposium-IV (14:15-16:20)	NanoSeries ECR Session (14:30-16:30)	Bio-Nano ECR Se (14:30-16:15)
Networking Coffee Break@Posters Area (16:00-16:30)		NanoSeries Symposium-V (14:40-16:20)			
Prof. Herre van der Zant Plenary Talk (16:30-17:05)	Prof. Nasim Annabi Plenary Talk (16:30-17:05)	Networking Coffee Break@Posters Area (16:20-16:45)		Networking Coffee Break (16:30-17:00)	
	Prof. M. Concepcion Serrano Keynote Talk (17:05-17:30)				
NanoSeries Symposium-II (17:05-19:05)	Bio-Nano Symposium-II(A) (17:30-19:10)	NanoSeries Symposium-V (16:45 19:05)	NanoSeries Symposium-III(B) (16:45 19:05)	NanoSeries Awards Ceremony@Main Conference R (17:00-17:10)	
NanoSeries Women in Nanoscience Felicitation Ceremony@Main Conference R (19:15 19:25)				Vote of Thanks by Team NanoSeries@Main Conferenc (17:10 17:15)	

Note: All the Poster Presentations Will be Displayed on Day 1 and Day 2 during all the Breaks

#NanoSeries2023 Conference Instructions

INSTRUCTIONS FOR SPEAKERS

1. Invited talks: Authors will be allotted 17 minutes to present their results, followed by a 3 minutes discussion period.
2. ECR and Bio-Nano ECR Oral talks: Authors will be allotted 13 minutes to present their results, followed by a 2-minutes discussion period.
3. Please do not exceed the allotted time slot
4. Speakers should have their presentations saved on a USB memory stick.
5. It is suggested to email a copy of the presentations to us as back up.
6. Please prepare the presentation in PPT files, PDF is not recommended.
7. Basic AV setup will be provided: laser pointer, cordless mike, desktop mike, sound system.
8. If your presentation files contain movies, please make sure that they are well formatted and connected to the main files. You may check your slides during the breaks.
9. Projectors are equipped with standard VGA connection ports. Mac users should bring their own adapter cord.
10. Please re-check this program prior to the conference to confirm if any changes have been made to your session.
11. Conference volunteers will move the mic during Q&A. Audiences with questions may raise their hand to receive the mic.
12. Any unanswered questions can be posted by filling out the NanoSeries Questionnaire form, which can be accessed by scanning the QR Code.

INSTRUCTIONS FOR POSTER PRESENTATION

1. The maximum poster size is A0: 84.1 cm x 118.9 cm. (33.1 inches x 46.8 inches).
2. Push pins for attaching the poster to the board will be provided.
3. Poster presenters will be directed to the designated board at the start of the poster session.
4. Author must be present to provide details and answer questions during the selected poster session times.
5. The paper title and all authors should be presented at the top of the poster.
6. There is no set format, however, typically posters include a brief introduction, experimental results, conclusions, and references.
7. Please use easily read fonts and avoid pairing red and green elements to assist those with red-green colorblindness.
8. Presenters must remove their posters after Day 2 final break. We assume no responsibility for posters that have been left behind.



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ICMM-CSIC, Spain
Honorable Chair of the
NanoSeries 2023 Conference



**Dr. Carmen
Munuera López**

ICMM-CSIC, Spain
Honorable Chair of the
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Plenary and Keynote Speakers of #NanoSeries2023



Prof. Hongjie Dai
Stanford University,
USA



Prof. Sumio Iijima
Meijo University, Japan



Prof. Andrea C. Ferrari
University of Cambridge,
United Kingdom



Prof. Ben Zhong TANG
CHUK-Shenzhen, China



Prof. Herre van der Zant
Delft University of Technology,
Netherlands



Prof. Valeria Nicolosi
Trinity College Dublin,
Ireland



Prof. Nasim Annabi
UCLA, USA



Prof. Jordi Arbiol
ICREA and ICN2, Spain



Dr. M. Concepcion Serrano
ICMM-CSIC, Spain



Prof. Ramón Aguado
ICMM-CSIC, Spain



Prof. Emilio M. Pérez
IMDEA Nanoscience, Spain

Local Organizing Committee of #NanoSeries2023



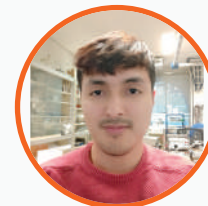
Prof. Yong Xie
ICMM-CSIC, Spain



Dr. Begoña Morales
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Daniel Gallego Fuente
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Diego Alonso Aldave
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Eva Osuna Bris
Universidad Autónoma
de Madrid, Spain



Gulsum Ersu
ICMM-CSIC, Spain



Thomas Pucher
ICMM-CSIC, Spain

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Day 1 - Main Conference Room

- 07:50-08:00 Registration Desk Opens
08:00-08:55 Registrations
09:00-09:05 Welcome & Introductory Comments by Team NanoSeries
09:05-09:10 **Country Welcome & Introductory Comments by Honorable Conference Chairs**
Dr. Andres Castellanos-Gomez, ICM-SCIC, Spain
Dr. Carmen Munuera Lopez, ICM-SCIC, Spain
09:10-09:45 **Plenary Session**
Title: Carbon Based Nanoscience
Hongjie Dai, Stanford University, USA
09:45-10:20 **Plenary Session**
Title: Rediscovery of Graham Bell's Photo-Thermal Acoustic Phenomena in Nanostructured materials
Sumio Iijima, Meijo University, Japan

Networking Coffee Break@Posters Area (10:20-10:50)

- 10:50-11:15 **Keynote Session**
Title: Mechanical Interlocking to Unlock the Potential of SWNTs
Emilio M. Pérez, IMDEA Nanoscience, Spain
11:15-13:35 **NanoSeries Symposium-I**
Nanofabrication & Nanomanipulation
*Chair: **José María De Teresa**, INMA, CSIC-UNIZAR, Spain*
11:15-11:35 **Title:** Combining Deep X-ray Lithography and Small Angle X-Ray Scattering for Nanotechnology Research
Benedetta Marmiroli, Graz University of Technology, Austria
11:35-11:55 **Title:** 2D/Silicon Integration for Broadband Photodetection and Thermal Tuning
Ilya Goykhman, Technion – Israel Institute of Technology, Israel
11:55-12:15 **Title:** Direct Nanoimprinting of Metal Nanostructures: a Route toward Flexible, Transparent Electrodes
Lola Gonzalez-Garcia, INM-Leibniz Institute for New Materials, Germany
12:15-12:35 **Title:** Adjusting Non-close Packed Arrays of Nanoparticles on Planar and Concave-structured Surfaces
Christina Graf, University of Applied Sciences Darmstadt, Germany
12:35-12:55 **Title:** Hybrid Superconducting Single-Photon Detectors based on NbTiN and Graphene
Daniel Granados, IMDEA Nanoscience, Spain
12:55-13:15 **Title:** Modelling of Photonic Structures for Quantum Levitation
Sol Carretero Palacios, Autonomous University of Madrid, Spain
13:15-13:35 **Title:** Block Copolymer Based Technologies for the Future of Semiconductor Devices
Marta Fernández-Regúlez, IMB CNM-CSIC, Spain

Networking Lunch Break@Posters Area (13:35-14:50)

ICMM-CSIC Lab Tours (14:50-16:00)

Networking Coffee Break (16:00-16:30)

- 16:30-17:05 **Plenary Session**
Title: 2D Membranes in Motion
Herre van der Zant, Delft University of Technology, Netherlands
17:05-19:05 **NanoSeries Symposium-II**
Nanomechanics and Optomechanics
*Chair: **Herre van der Zant**, Delft University of Technology, Netherlands*
17:05-17:25 **Title:** Mechanics of Defective 2D Materials
Cristina Gomez-Navarro, Autonomous University of Madrid, Spain
17:25-17:45 **Title:** Overcoming the Limitations of Silicon: How Geometrical Innovation Can Revolutionize Nanophotonics & Nanoelectronics?
Avi Karsenty, Jerusalem College of Technology, Israel
17:45-18:05 **Title:** Plasmonic Optomechanical Switch
Daniel Ramos, ICM-SCIC, Spain
18:05-18:25 **Title:** Dynamic Control of Light-Matter Interactions in Graphene & 2D Crystals by Surface Acoustic Waves
Jorge Pedrós, Technical University of Madrid, Spain
18:25-18:45 **Title:** Short Oligomeric Molecules Demonstrate Behavior of Bistable Machines
Alexander Muratov, Semenov Institute of Chemical Physics, Russia
18:45-19:05 **Title:** Unusual Nanomechanical Deformation and Fracture Properties in Gallium Telluride Multilayers
Yan Zhou, University of Bristol, United Kingdom

NanoSeries Women in NanoScience Felicitation Ceremony (19:15-19:20)

Special Virtual Address by "The Hon. Elvira Fortunato, Minister of Science, Technology and Higher Education, Portugal"

Cocktail Networking (19:20-21:00)

Day 1 - Seminar Hall

10:50-13:30 Bio-Nano Symposium-I

Bionanosensorics & Bioelectronics for in Vitro and Vivo Applications

*Chair: **Larysa Baraban**, Helmholtz-Zentrum Dresden-Rossendorf, Germany*

10:50-11:10 **Title:** Electrochemical Sensing Platforms Based on Layered Carbon-stabilised Porous Silicon Nanostructures

Beatriz Prieto-Simon, ICREA and University Rovira i Virgili, Spain

11:10-11:30 **Title:** Organic (Nano)bioelectronics for Point of Care Diagnostics

Anna-Maria Pappa, Khalifa University of Science and Technology, United Arab Emirates

11:30-11:50 **Title:** Optical Nanoparticles Assembled Silica Structures for Bio-applications

Bong-Hyun Jun, Konkuk University, South Korea

11:50-12:10 **Title:** Pushing the Limits of Luminescence Thermometry with Silver Sulfide Nanocrystals

Riccardo Marin, Autonomous University of Madrid, Spain

12:10-12:30 **Title:** Conducting Polymer Scaffolds: a Route Towards 3D in Vitro Bioelectronics

Charalampos Pitsalidis, Khalifa University of Science and Technology, United Arab Emirates

12:30-12:50 **Title:** Wearable Devices for Transcutaneous Monitoring of Oxygen and Carbon Dioxide

Juan Pedro Cascales, Complutense University of Madrid, Spain

12:50-13:10 **Title:** Overview of Multi-microfluidics@Nova University Lisbon: Continuous Flow, Droplet and Digital Microfluidics for DNA Detection

Hugo Águas, NOVA University of Lisbon, Portugal

13:10-13:30 **Title:** Improving the Performance of Luminescence Lifetime -based Thermometry Through Convolutional Neural Networks

Erving Ximendes, Autonomous University of Madrid, Spain

Networking Lunch Break@Posters Area (13:35-14:50)

ICMM-CSIC Lab Tours (14:50-16:00)

Networking Coffee Break (16:00-16:30)

16:30-17:05 Plenary Session

Title: Bioadhesive Hydrogels for Drug Delivery and Tissue Engineering

Nasim Annabi, UCLA, USA

17:05-17:30 Keynote Session

Title: Nanomaterials for the design of novel therapeutics in neural repair

María Concepción Serrano, ICMM-CSIC, Spain

17:30-19:10 Bio-Nano Symposium-II

Nanomedicine

*Chair: **María Concepción Serrano**, ICMM-CSIC, Spain*

*Co-Chair: **Maria del Puerto Morales**, ICMM-CSIC, Spain*

17:30-17:50 **Title:** Poly(glycerol)-Based Biomedical Nanodevices Constructed by Functional Programming on Inorganic Nanoparticles for Cancer Nanomedicine

Naoki Komatsu, Kyoto University, Japan

17:50-18:10 **Title:** Therapeutic Nano-Hybrid Complexes in Nanomedicine

Jolanda Spadavecchia, CNRS, France

18:10-18:30 **Title:** Phase Shift Microbubbles – Nanoscale Theranostics

Evan Unger, Microvascular Therapeutics, USA

18:30-18:50 **Title:** Surface Modification of Vortex Nanodiscs to Overcoming Macrophage Uptake for Efficient Theragnosis Applications

Célia Tavares de Sousa, Autonomous University of Madrid, Spain

18:50-19:10 **Title:** Design and Synthesis of Nanogels as Promising Tools for Drug Delivery in Spinal Cord Injury

Alessandro Sacchetti, Polytechnic University of Milan, Italy



Day 2 - Main Conference Room

09:35-10:10 Plenary Session

Title: 2D Nanostructures at Atomic Scale: From Energy and Environmental Applications to Quantum Devices

Jordi Arbiol, ICREA and Institut Català de Nanociència i Nanotecnologia (ICN2), Spain

Networking Coffee Break @Posters Area (10:10-10:35)

10:35-12:35 NanoSeries Symposium-III(A)

Growth and/or Synthesis of Nanomaterials, Nano-objects and Hybrid Nanostructures

Chair: Emilio M. Pérez, IMDEA Nanoscience, Spain

10:35-10:55 **Title:** Perovskite Crystallization Management for Efficient Optoelectronic Applications

Pablo P. Boix, University of Valencia, Spain

10:55-11:15 **Title:** Graphene&MoS₂: Growth, Functionalization, Heterostructures and Devices

Roberto Muñoz Gómez, ICMM-CSIC, Spain

11:15-11:35 **Title:** Chemical Design for Metal Halide Perovskites Nanostructures

Loredana Protesescu, University of Groningen, Netherlands

11:35-11:55 **Title:** High-quality Si Nano-powders and Derived Si Porous Micro-particles for High Energy Density Anode Materials and Hydrogen Production

Chuan-Pu Liu, National Cheng Kung University, Taiwan

11:55-12:15 **Title:** Printing of 2D Materials for Electronics Applications

Jiantong Li, KTH Royal Institute of Technology, Sweden

12:15-12:35 **Title:** On-surface Synthesis of Pi-conjugated Polymers

David Écija, IMDEA Nanoscience, Spain

12:35-13:10 Plenary Session

Title: Layered Materials for Optoelectronics and Quantum Technologies

Andrea C. Ferrari, University of Cambridge, UK

Networking Lunch Break @Posters Area (13:10-14:15)

Keynote Session

14:15-14:40 **Title:** Semiconductor-based Superconducting Qubits

Ramon Aguado, ICMM-CSIC, Spain

14:40-19:05 NanoSeries Symposium-V

Electronics, Photonics & Plasmonic Nanomaterials

Chair: Andrea C. Ferrari, University of Cambridge, UK

14:40-15:00 **Title:** Hot-Electron Sunlight Harvesters Based on Plasmonic Inverted-Pyramid Arrays

Alejandro R. Goñi, ICMAB-CSIC, Spain

15:00-15:20 **Title:** Diversification of Nanowire Building blocks for Device Applications

Roie Yerushalmi, The Hebrew University of Jerusalem, Israel

15:20-15:40 **Title:** Nanomaterials for Sensing Applications.

Paola Barbara, Georgetown University, USA

15:40-16:00 **Title:** Organic Color Centers

YuHuang Wang, University of Maryland, USA

16:00-16:20 **Title:** Neutral and Charged Excitons in 2D Transition Metal Dichalcogenides Under Biaxial Compressive Strain

Reyes Calvo, University of Alicante, Spain

Networking Coffee Break @Posters Area (16:20-16:45)

16:45-17:05 **Title:** Interplay Between Ion Migration and Contacts in Halide Perovskite Memristors

Antonio Guerrero, Jaume I University, Spain

17:05-17:25 **Title:** Solution-processed Nanographene Lasers With Nanostructured Resonators

María A. Díaz-García, University of Alicante, Spain

17:25-17:45 **Title:** Conductive Organic-based 2D Materials

Enrique Cánovas, IMDEA Nanoscience, Spain

17:45-18:05 **Title:** Controlling Exciton Polarization in Plasmonic Semiconductor Nanocrystals

Pavle V. Radovanovic, University of Waterloo, Canada

18:05-18:25 **Title:** Nonlinear Nanoplasmonics with Atomically-thin Materials

Joel D. Cox, The University of Southern Denmark, Denmark

18:25-18:45 **Title:** Interplay between Hund-driven Correlations, Superconductivity and Nematicity

Laura Fanfarillo, National Research Council (CNR), Italy

18:45-19:05 **Title:** Superconductor-semiconductor Hybrid Devices for Quantum Science and Technology

Rubén Seoane Souto, ICMM-CSIC, Spain

Day 2 - Seminar Hall

10:35- 16:20 NanoSeries Symposium-IV

Nanoimaging & Nano characterization

*Chair: **Jordi Arbiol**, ICREA and Institut Català de Nanociència i Nanotecnologia (ICN2), Spain*

10:35-10:55 **Title:** Efficient Light Collection from Single-photon Emitters in 2D Materials
Rudolf Bratschitsch, University of Münster, Germany

10:55-11:15 **Title:** The Verwey Transition of Nanometer-thick Micron-wide Magnetite Crystals
Juan de la Figuera, IQFR-CSIC, Spain

11:15-11:35 **Title:** Advanced In-situ Transmission Electron Microscopy: A Powerful Tool for Material Science, Energy Storage & Life Science Applications
Hugo Perez Garza, DENSsolutions B.V., Netherlands

11:35-11:55 **Title:** 3D Layered-perovskite Materials with 2D Properties Induced by Atomic Ordering Within the Crystal Structure
Susana García-Martín, Complutense University of Madrid, Spain

11:55-12:15 **Title:** Monolayer Semiconductor Superlattices and Interfaces for Nanophotonics
Alberto G. Curto, Ghent University, Belgium

12:15-12:35 **Title:** Long-distance Electron Transport in Cytochrome C
Anna Lagunas, Institute for Bioengineering of Catalonia, Spain

12:35-12:55 **Title:** Advances in Magnetic Force Microscopy
Miriam Jaafar Ruiz-Castellanos, The Autonomous University of Madrid, Spain

12:55-13:15 **Title:** Investigation Using Transmission Electron Microscopy of Spinodal Decomposition and Atomic Ordering in Highly-mismatched Alloys: Ga(As,Bi) Case Study
Esperanza Luna, Paul Drude Institute, Germany

Networking Lunch Break @Posters Area (13:15-14:20)

14:20-14:40 **Title:** Low-Temperature Activation of Methane and Its Electrical Detection Using 2D Transition Metal Oxide Nanosheets
Ryo Nouchi, Osaka Metropolitan University, Japan

14:40-15:00 **Title:** Hot Carrier Extraction in 2D Semiconductor Photoelectrodes
Justin Sambur, Colorado State University, USA

15:00-15:20 **Title:** Exploring the Thermal Stability of Complex Solid Solution Thin Film by In-situ Heating (Scanning) Transmission Electron Microscopy
Alba Garzón Manjón, Catalan Institute of Nanoscience and Nanotechnology - ICN2, Spain

15:20-15:40 **Title:** Probing Atomic Quantum Defects in 2D Semiconductors
Bruno Schuler, Empa, Switzerland

15:40-16:00 **Title:** In-plane Phonon Anisotropy of van der Waals Crystals Probed by Angle-resolved Polarized Raman Spectroscopy
Huarui Sun, Harbin Institute of Technology, China

16:00-16:20 **Title:** Understanding Processes at Grain Boundaries in Compositionally Complex Materials Using Advanced Electron Microscopy Techniques
Ali Ahmadian, Max Planck Institute, Germany

Networking Coffee Break @Posters Area (16:20-16:45)

16:45-19:05 NanoSeries Symposium-III(B)

Growth and/or Synthesis of Nanomaterials, Nano-objects and Hybrid Nanostructures

*Chair: **Emilio M. Pérez**, IMDEA Nanoscience, Spain*

16:45-17:05 **Title:** Preparation and Application of Carbon Nanoforms-based Hybrid Catalysts
Francesco Giacalone, University of Palermo, Italy

17:05-17:25 **Title:** Transition Metals Aerogels for Hydrogen Production from Nitrogenous Compounds in Microfluidic Devices
Luis Gerardo Arriaga Hurtado, Center for Research and Technological Development in Electrochemistry, Mexico

17:25-17:45 **Title:** Tuning Magnetism and Superconductivity in Layered Materials Through Organic Ion Intercalation
Marco Gobbi, Centro de Física de Materiales (CSIC-UPV/EHU) and Materials Physics Center (MPC), Spain

17:45-18:05 **Title:** Growth Selectivity Control of InAs Shells on Crystal Phase Engineered GaAs Nanowires
Víctor J. Gómez, Technical University of Valencia, Spain

18:05-18:25 **Title:** Nonlinear Optical Excitation of 0D Carbon Nanomaterials: is There a Trend From Well-defined Nanographenes to Carbon Dots?
Ermelinda Maçôas, University of Lisbon, Portugal

18:25-18:45 **Title:** Mineral Interface Doping
Peter Thissen, Karlsruhe Institute of Technology, Germany

18:45-19:05 **Title:** Structural Manipulation of ZnO Nanostructure and the Influence on Random Lasing Emission
Mohd Mahadi Halim, Universiti Sains Malaysia, Malaysia

Day 3 - Main Conference Room

ECR Invited and Oral Talks@Main Conference Room

Chair: **Dr. Carmen Munuera Lopez**, ICMM-CSIC, Spain

- 09:00-09:15 **Title:** Massive Parallel Mechanical Exfoliation: A Scalable and Low-cost Production Method for Few-layer 2D Materials
Yiğit Sözen, ICMM-CSIC, Spain
- 09:15-09:30 **Title:** All-Dry Deterministic Transfer of Thin Gold Nanowires for Electrical Connectivity
Diego Alonso Aldave, The Autonomous University of Madrid, Spain
- 09:30-09:45 **Title:** Magneto-mechanics of 2D Material Membranes
Makars Šiškins, National University of Singapore, Singapore
- 09:45-10:00 **Title:** Super-resolution Acoustic Imaging Using Nanostructures
Rafael Fuentes-Domínguez, University of Nottingham, United Kingdom
- 10:00-10:15 **Title:** Manufacturing of Protein-polysaccharide Scaffolds Through 3D Extrusion Printing: Effect of the Graphene Oxide Incorporation
Adrián Esteban-Arranz, Institute of Technology and Polymer Science-CSIC, Spain
- 10:15-10:30 **Title:** Synthesis Optimization of Copper Indium Sulfide (CuInS₂) Quantum Dots for Nanothermometry Applications
Idoia Alayeto Martínez, Complutense University of Madrid, Spain
- 10:30-10:45 **Title:** Transition Metal doped BiVO₄ Photoanodes Towards Oxygen Evolution Reaction
Miguel Garcia Tecedor, IMDEA Energy, Spain
- 10:45-11:00 **Title:** Near-infrared Plasmon Induced Hot-electron Transfer in a Indium Tin Oxide MoS₂ Heterostructure
Michele Guizzardi, Polytechnic University of Milan, Italy

Networking Coffee Break (11:00-11:25)

- 11:25-11:40 **Title:** Imaging the Constituent Electron and Hole of a Moiré Localized Interlayer Exciton
Vivek Pareek, OIST Graduate University, Japan
- 11:40-11:55 **Title:** Automated Statistical Analysis of Raman Spectra of Nanomaterials
Natalia Martín Sabanés, IMDEA Nanoscience, Spain
- 11:55-12:10 **Title:** Nano-scale Conductivity of Ni₃(HITP)₂ Metal-Organic Framework
Eva Osuna Bris, The Autonomous University of Madrid, Spain
- 12:10-12:25 **Title:** Development of a Technological AFM Microscope for Operation in UHV
Daniel Gallego Fuente, The Autonomous University of Madrid, Spain
- 12:25-12:40 **Title:** Generation of Magnetic and Plasmonic Parts by Laser Powder Bed Fusion of Nano-additivated Polymer Powders
Carlos Doñate Buendia, University of Wuppertal, Germany

- 12:40-12:55 **Title:** Highly Optical Tunability of Monolayer and Bilayer MoS₂ over LaF₃ by Gating
Onur Cakiroglu, ICMM-CSIC, Spain
- 12:55-13:10 **Title:** Topological Darkness in Two-dimensional and Other High-refractive-index Materials
Georgy Ermolaev, XPANCEO, United Arab Emirates
- 13:10-13:25 **Title:** 2D Material-Based Field-Effect Transistors via Laser Enabled Oxidation
Thomas Pucher, ICMM-CSIC, Spain

Networking Lunch Break (13:25-14:30)

- 14:30-14:45 **Title:** Sustainable and Viable Processes to Produce Metal Oxide Devices in Large Scale Manufacturing
Emanuel Carlos, NOVA School of Science and Technology, Portugal
- 14:45-15:00 **Title:** Reliability of Gold Nanoparticles Inside Cells: Impact on Their Fundamental Optical Properties
Marina París Ogáyar, The Autonomous University of Madrid, Spain
- 15:00-15:15 **Title:** Thermoelectric Flexible Paper Devices Based on van der Waals Materials
Gülsüm Ersü, ICMM-CSIC, Spain
- 15:15-15:30 **Title:** Combining Freestanding Ferroelectric Perovskite Oxides with Two-Dimensional Semiconductors for High Performance Transistors
Sergio Puebla, ICMM-CSIC, Spain
- 15:30-15:45 **Title:** Multivariate Modulation: Combining Defect Engineering With Multifunctionalisation to Enhance Porosity and Reactivity of Metal-organic Frameworks
Isabel Abánades Lázaro, University of Valencia, Spain
- 15:45-16:00 **Title:** Single-Walled Carbon Nanotubes Encapsulated within Metallacycles
Alejandro López-Moreno, IMDEA Nanoscience, Spain
- 16:00-16:15 **Title:** Growth of Arbitrary MoS₂-based Nanopatterns via Hot-probe Lithography
Giorgio Zambito, University of Genoa, Italy
- 16:15-16:30 **Title:** Fabrication and Mechanical Characterization of Self-healing Macrocyclic-functionalized Carbon Nanotube-polyurethane Composites With Dynamic Chemistry
Matthew D. Eaton, IMDEA Nanoscience, Spain

Networking Coffee Break (16:30-17:00)

- 17:00-17:10 **NanoSeries Awards Ceremony**
- 17:10-17:15 **Vote of Thanks by Team NanoSeries**
- 17:15-17:20 **Concluding Remarks by Honorable Conference Chairs**
Dr. Andres Castellanos-Gomez, ICMM-CSIC, Spain
Dr. Carmen Munuera Lopez, ICMM-CSIC, Spain

Day 3 - Seminar Hall

Plenary Session (Online Streaming Via Zoom)

09:00-09:35 **Title:** Conceptually New Theranostic Systems Based on AIEgen Nanoaggregates
Ben Zhong TANG, The Chinese University of Hong Kong, Shenzhen, China

09:35-13:25- Bio-Nano Symposium-II(B)

Nanomedicine

Chair: María Concepción Serrano, ICMM-CSIC, Spain

Co-Chair: María del Puerto Morales, ICMM-CSIC, Spain

09:35-09:55 **Title:** Peptide-Based Nanotechnologies for Cardiac Repair

Emilio I. Alarcón, University of Ottawa, Canada

09:55-10:15 **Title:** Ag₂S Nanoparticles for in Vivo Optical Coherence Tomography and Nir Multimodal Imaging

Emma Martín Rodríguez, Autonomous University of Madrid, Spain

10:15-10:35 **Title:** Long Lifetime Luminescent Nanoparticles for Autofluorescence-free in Vivo Imaging – Contrast Agents in the Time Domain

Dirk H. Ortgies, Autonomous University of Madrid, Spain

10:35-10:55 **Title:** Hazard Characterization of Graphene-related Materials: an Integrated Approach for the Assessment of Their Safety

Marco Pelin, University of Trieste, Italy

Networking Coffee Break (11:00-11:25)

11:25-11:45 **Title:** Addressing the “Tissue-Issue”: Lifetime-thermometry for Monitoring of Small Animal Liver Inflammation

Antonio Benayas, Autonomous University of Madrid, Spain

11:45-12:05 **Title:** Graphene-based Hybrid Hydrogels as Advanced Therapy for the Treatment of Wound Infections

Cristina Martín Jiménez, UC3M, Spain

12:05-12:25 **Title:** Polymeric Antimicrobial Nanomaterials in the (Post-)antibiotic Era

Iris L. Batalha, Institute for Bioengineering of Catalonia (IBEC), Spain

12:25-12:45 **Title:** Targeting Strategies for Improving the Efficacy of Nanomedicine

Gonzalo Villaverde Cantizano, Complutense University of Madrid, Spain

12:45-13:05 **Title:** Boosting the NIR-II Emission Efficiency of Ag₂S Nanoparticles Through Innovative Synthetic Routes

Jorge Rubio, Complutense University of Madrid, Spain

13:05-13:25 **Title:** Chrysin in Calixarene 0118 (OTX008) and Sulfobutylether- β -cyclodextrin (SBE β CD) Nanoformulation Alleviate Fibrosis Associated with Chronic Diabetes

Anca Hermenean, Vasile Goldis Western University of Arad, Romania

Networking Lunch Break (13:25-14:30)

Bio-Nano ECR Invited and Oral Talks

Chair: María del Puerto Morales, ICMM-CSIC, Spain

14:30-14:45 **Title:** High-throughput Membranes and Optomechanical Devices for Nanomechanical Spectrometry of Bacteria

Jose Jaime Ruz Martínez, Institute of Micro and Nanotechnology-CSIC, Spain

14:45-15:00 **Title:** Graphene-based Smart Inks for Electroanalysis

Alessandro Silvestri, CIC bioGUNE, Spain

15:00-15:15 **Title:** Antibody/nanoparticle Targeting Coupled With Bioorthogonal Click Chemistry as Novel Approach to Fight Cancer

Ely Anira Bravo Tapia, The Autonomous University of Madrid, Spain

15:15-15:30 **Title:** Optical Coherence Tomography Meets Thermoresponsive Nanogels: A Combination for Three-dimensional Thermal Bioimaging

Tamara Muñoz Ortiz, The Autonomous University of Madrid, Spain

15:30-15:45 **Title:** Designing Granzyme-B Activity Nanoprobes for Immunotherapy Response Evaluation

Mohammed Alqudwa Fattouh, Complutense University of Madrid, Spain

15:45-16:00 **Title:** Exploring the Origin of the Thermal Sensitivity of Near-Infrared-II Emitting Rare Earth Nanoparticles

Khouloud Hamraou, Complutense University of Madrid, Spain

16:00-16:15 **Title:** Optimization Pathways for the Production of Superbright Silver Sulfide Bioimaging and Nanothermometry Probes

Irene Zabala Gutierrez, Complutense University of Madrid, Spain

NanoSeries Global Poster Competition@Poster Area (All the Posters Will be Displayed on DAY 1 and DAY 2)

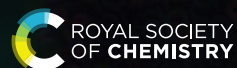
- NS-P01** **Title:** Polymersomes-decorated Microrobots With Multiple Cargos for Gynecological Cancer Therapy
Fatemeh Rajabasadi, Leibniz Institute for Solid State and Materials Research Dresden - IFW, Germany
- NS-P02** **Title:** Direct Magnetic Evidence, Functionalization and Low-Temperature Magneto-Electron Transport in Liquid-Phase Exfoliated FePS₃
Lucía Martín-Pérez, The Autonomous University of Madrid, Spain
- NS-P03** **Title:** Real-time Single-molecule Monitoring and Control of Nanoparticle Formation
Yujie Guo, King's College London, United Kingdom
- NS-P04** **Title:** Study of Surface Plasmon Resonance of Silver Nanoparticles With Modulating Morphologies
Esther Hernández Martín, Technological and Research Centre, SDLE, Spain
- NS-P05** **Title:** Light Modulated Active Plasmonic Surfaces
Mohammed Mustafa A Al Hussain, Aalto University, Finland
- NS-P06** **Title:** Room Temperature Sensing of Volatile Organic Compounds Using Hybrid Sno Nanoflower and Laser-induced Graphitic Carbon Devices
Richard Murray, Tyndall National Institute, Ireland
- NS-P07** **Title:** Indium-Tin Oxide Nanoparticles for Biomedical Applications: Shifting to the Third Biological Window
Nicol Caetano Zeballos, The Autonomous University of Madrid, Spain
- NS-P08** **Title:** Plasmonic Semi-shells for Biomedical Applications
Alejandro Hernández Medel, The Autonomous University of Madrid, Spain
- NS-P09** **Title:** Electron Transport through Metal-Protein-Metal junctions
Carlos Roldán Piñero, The Autonomous University of Madrid, Spain
- NS-P10** **Title:** Mechanochemical Synthesis of Mechanically Interlocked Single-Walled Carbon Nanotubes
Marisol Rivas Caramés, IMDEA Nanoscience, Spain
- NS-P11** **Title:** Improving the Mechanical Properties of Polyurethanes Through Mechanically Interlocked Carbon Nanotubes
Ion Isasti, IMDEA Nanoscience, Spain
- NS-P12** **Title:** Physical & Chemical Microwave Ablation (MWA) Enabled by Nonionic MWA Nanosensitizers Repress Incomplete MWA-Arised Liver Tumor Recurrence
Qidi Hou, Guangdong Medical University, China
- NS-P13** **Title:** Carbon Nanotubes-based Electrocatalyst for Sensing of Neurotransmitters
Giuseppe Misia, University of Trieste, Italy
- NS-P14** **Title:** Luminescent Carbon Nanodots Doped with Gadolinium (III): Purification Criteria, Chemical and Biological Characterization of a New Dual Fluorescence/MR Imaging Agent
Michele Cesco, CIC biomaGUNE, Spain
- NS-P15** **Title:** Design of Biocidal Titanium Phosphate Nanoparticles for Excellent Antibacterial Applications
Tetiana Hubetska, University of Oviedo, Spain
- NS-P16** **Title:** Ionic Conductivity in Engineered Protein Thin Films
Lisa Almonte, University of Alicante, Spain
- NS-P17** **Title:** Emerging Opportunities for Nanotechnologies in the Energy Sector
Enrique Espí, Repsol Technology Center, Spain
- NS-P18** **Title:** Enhancing the Thermal Sensitivity of Upconverting Nanoparticles
Paula Gutiérrez González, Complutense University of Madrid, Spain

- NS-P19** **Title:** Synthesis of Nanoprobes for Molecular Imaging in Inflammatory Processes
Marta Florensa Márquez, Complutense University of Madrid, Spain
- NS-P20** **Title:** Gold Nanoparticles for Biological Sensing and Imaging Applications(SERS,CT)
Aimane Danana, Complutense University of Madrid, Spain
- NS-P21** **Title:** Strain-engineering of 2D Devices Based on Large-scale Monolayers
Borna Radatović, Institute of Physics Zagreb, Croatia
- NS-P22** **Title:** Reproducible & Accurate Method for Single Nanoparticle Positioning
Elena Pinilla-Cienfuegos, Technical University of Valencia, Spain
- NS-P23** **Title:** Graphene-Based Gas Sensors for Low Concentration NO Detection Enhanced by UV Irradiation.
Álvaro Peña, Complutense University of Madrid, Spain
- NS-P24** **Title:** Magnetostrictive Modulation of Surface Acoustic Waves for Biomagnetic Sensors
Juan Diego Aguilera, Complutense University of Madrid, Spain
- NS-P25** **Title:** Enhanced Photoresponse from MoS₂-InAs/ZnSe Heterostructure
Aswin Asaithambi, Italian Institute of Technology, Italy
- NS-P26** **Title:** 3D-printed Polylactic Acid-biographene as Effective Support for the Biocatalysts Immobilization
Angeliki Polydera, University of Ioannina, Greece
- NS-P27** **Title:** Green Synthesized Magnetic Nanoparticles as Effective Nanosupport for the Immobilization of Enzymes
Haralambos Stamatis, University of Ioannina, Greece
- NS-P28** **Title:** Label-free Characterization of Cells and Particles Merging optics, Nanomechanics and Microfluidics in a Single Device
Alberto Martín-Pérez, ICMM-CSIC, Spain
- NS-P29** **Title:** Real Time Investigations of Silicon Particles Formation and Growth from Silicon Rich Oxide Compounds
Emmanuel Idowu, CNRS, France
- NS-P30** **Title:** Layered Nanosized NaMnO₂ as an Electrode Material for Aqueous Sodium Capacitors with High Cycleability
Andrii Boichuk, University of Valencia, Spain
- NS-P31** **Title:** Anomalous Parametric Amplification of First Degenerate Mode in Coupled Beam Systems
Vishnu Kumar, Indian Institute of Science, India
- NS-P32** **Title:** Nanoparticle-Based Sensing Device for Rapid Assessment of Olive Oil Adulteration with Vegetable Oils
Theodore K. Christopoulos, University of Patras, Greece
- NS-P33** **Title:** A Rapid Strip Test for Authentication of Sardina Pilchardus Based on Gold Nanoparticles for Visual Detection
Despina P. Kalogianni, University of Patras, Greece
- NS-P34** **Title:** Identification of Olive Varieties Using a Nanoparticle-Based DNA Biosensor
Natalia-Maria Christopoulou, University of Patras, Greece
- NS-P35** **Title:** A Home-made Dispensing System Based on a 3D Printer for the Construction of Rapid Tests for Optical Detection of Biomolecules by Exploiting Colored Nanoparticles
Panagiota M. Kalligosfyri, University of Patras, Greece
- NS-P36** **Title:** A microRNA Biosensor for Visual Detection of microRNAs in Urine Samples using Gold Nanoparticles
Eleni Lamprou, University of Patras, Greece

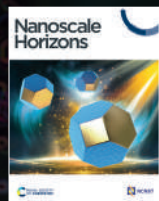
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4. **Compliance with Laws and Regulations:** Participants are required to comply with all applicable laws and regulations, including those related to data privacy, anti-discrimination, and anti-harassment.
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8. **Compliance with Event Policies:** Participants should comply with all event policies, including those related to registration, attendance, and behaviour.

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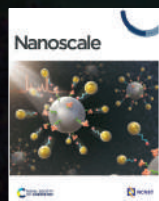
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