

TENTATIVE PROGRAM (as of 24/11/2021)

P: Plenary / K: Keynote lecture / I: Invited Lecture / O: Oral contribution



Tuesday (23/11/2021)

08:00 – 09:00: Registration

09:00 – 09:15: Opening Ceremony

09:15 – 09:30: **Adolfo Morais Ezquerro** (Basque Government, Spain)

The Basque Country IKUR Strategy 2030 in Quantum Technologies

09:30 – 10:15: **Ignacio Cirac** (Max Planck Institute of Quantum Optics, Germany) P

Quantum computers and many-body systems

10:15– 11:15: *Coffee Break / Poster Session / Exhibition*

11:15 – 12:00: **Tommaso Calarco** (Forschungszentrum Jülich, Germany) P

The European Quantum initiative: from a flagship to a fleet

12:00 – 12:45: **Andrea Ferrari** (Cambridge Graphene Centre, University of Cambridge, UK) P

The Graphene Flagship: The First 10 years

12:45 – 13:00: **Yolanda de Miguel** (Tecnalia, Spain)

Nanotechnology at the Basque Research and Technology Alliance (BRTA)

13:00 – 14:00: *Cocktail lunch (offered by Imaginenano2021)*

14:00 – 14:30: *Poster session*

Chairperson: **M. Lucia Curri** (University of Bari, CNR, Italy)

14:30 – 15:00: **Arben Merkoci** (ICREA / ICN2, Spain) K

Lateral flow paper-based nanobiosensors for diagnostics applications

15:00 – 15:30: **Elena Aznar** (UPV/CIBER BBN, Spain) K

Communication at the nanoscale. Nanoparticles that “talk” to one another

15:30 – 16:00: **Danny Porath** (The Hebrew University of Jerusalem, Israel) K

Surprising Charge Transport in DNA

16:00 – 17:30: *Coffee Break / ePoster Session / Exhibition*

Chairperson: **Elena Aznar** (UPV/CIBER BBN, Spain)

17:30 – 17:45: **Fernando Jimenez Urbanos** (Fondation ciRFC, France) O

MoS₂ Field-Effect Transistors for Ion Sensing: Ultrasensitive Hg²⁺ Detection

17:45 – 18:00: **Bahareh Khezri** (University of Chemistry and Technology Prague, Czech Republic) O

2D-based nano/microrobots: Towards Biomedical and Environmental Applications

18:00 – 18:15: **Marta Clara Larrú Díaz** (Nadetech Innovations, Spain) O

Fabricate multiphase nanocomposites with nanofibers combining electrospinning and 3D printing technologies



Wednesday (24/11/2021)

Chairperson: **Roy Beck** (Tel Aviv University, Israel)

- 09:00 – 09:30: **M. Lucia Curri** (University of Bari, CNR, Italy) K
Colloidal nanomaterials for life science: tailoring surface chemistry for old, new and emerging functions
- 09:30 – 09:45: **M. Ali Aboudzadeh** (CNRS, University Pau & Pays Adour, France) O
Synthesis and Colloidal Properties of Gold Nanoparticles Functionalized with Cyclic Poly(ethylene oxide)s
- 09:45 – 10:00: **Philip Schaefer** (neaspec GmbH, Germany) O
nano-FTIR and correlation nanoscopy for organic and inorganic material analysis
- 10:00 – 10:15: **Maadhav Kothari** (Zeiss Microscopy, UK) O
Imaging and understanding metal organic frameworks using advanced scanning electron microscopy techniques
- 10:15 – 10:30: **Cristina Arimany-Nardi** (NanomedSpain / IBEC, Spain) O
Nanomed Spain, the Spanish Technological Platform for Nanomedicine: promoting public-private collaboration, innovation and clinical translation of nanomedicine in Spain

10:30– 11:30: *Coffee Break / Poster Session / Exhibition*

Chairperson: **Cristina Arimany-Nardi** (NanomedSpain / IBEC, Spain)

- 11:30 – 11:50: **Jordi Llop** (CIC Biomagune, Spain) I
Labelled Self-propelled nanosystems: towards improved (nano)theragnostic agents
- 11:50 – 12:05: **Eduardo Gil-Santos** (Instituto de Micro y Nanotecnología (IMN-CNM, CSIC), Spain) O
Optomechanical detection of single bacterium mechanical modes
- 12:05 – 12:20: **Aritz García Arribas** (Instituto Biofisika (UPV/EHU, CSIC), Spain) O
Lipid-gold clusters (AuroraTM): improving gold nanoparticles for lipid membrane studies
- 12:20 – 12:35: **Juan Manuel Arango** (Instituto de Biofisika, Spain) O
Synthesis and characterization of amphiphilic fluorinated polymers for phase transfer solubilization of hydrophobic gold nanoparticles
- 12:35 – 12:50: **Luis Antonio Panes Ruiz** (TU Dresden, Germany) O
Breath-level detection of hydrogen sulphide in humid air by arrays of gold nanoparticle-functionalized carbon nanotubes
- 12:50 – 13:05: **Monica Carril** (Instituto Biofisika (CSIC, UPV/EHU), Spain) O
Synthesis of water-soluble fluorinated gold nanoparticles and in vivo 19F MRS.

13:05 – 14:30: *Lunch Break*

Chairperson: **Jordi Llop** (CIC Biomagune, Spain)

- 14:30 – 15:00: **Meital Reches** (The Hebrew University of Jerusalem, Israel) K
Functional Coatings for Sterile Surfaces
- 15:00 – 15:15: **Malou Henriksen** (CIC biomaGUNE, Spain) O
SERS-active 3D printed scaffolds; combining hybrid materials to better understand the tumour environment
- 15:15 – 15:30: **Jesus Santamaria** (Universidad de Zaragoza, Spain) O
A potential catalytic therapy in oncology: Cu-Fe Nanoparticles responsive to tumor microenvironment
- 15:30 – 15:45: **Lorena Simon Gracia** (University of Tartu, Estonia) O
Tumor-penetrating polymersomes encapsulating a novel anthracycline for cancer treatment
- 15:45 – 16:00: **Sara Escalera** (University of Valladolid, Spain) O
Novel targeted devices based on Elastin-like polypeptides for diagnosis and gene therapy in breast cancer
- 16:00 – 16:15: **Marina Lopez Yubero** (Instituto de Micro y Nanotecnología, Spain) O
Effects of energy metabolism on the mechanical properties of breast cancer cells.
- 16:15 – 16:35: **Roy Beck** (Tel Aviv University, Israel) I
Order from the disorder with intrinsically disordered peptide amphiphiles

16:35 – 17:05: *Coffee Break / ePoster Session / Exhibition*

Chairperson: **Aran Garcia-Lekue** (DIPC, Spain)

- 17:05 – 17:20: **Ana María Pablo-Sainz-Ezquerro** (Ecole Centrale de Lyon / Institut des Nanotechnologies (INL), France) O
Gold-seeded lithium niobate nanoparticles as NanoZyme biosensors
- 17:20 – 17:35: **Alicia Aparicio Millán** (Instituto de Micro y Nanotecnología (IMN-CNM, CSIC), Spain) O

Controlled deposition and characterization of single bacteria using nanomechanical sensors in air 17:35 – 17:50: Unai Ortiz-Orruño (ICFO, Spain)	O
Ultra-Sensitive High Dynamic Range Label Free Platform for Bioparticle Detection 17:50 – 18:05: Nuria Alegret (UPV/EHU, Spain)	O
Nano in 3D: CNT and Conjugated Polymers for Electrosensitive Tissue Regeneration 18:05 – 18:20: Jose Maria Alonso (I+Med SCoop., Spain)	O
Functionalized Biomimetic Nanohydroxyapatite for Biomedical Applications	



Thursday (25/11/2021)

Chairperson: Rui Gusmão (University of Chemistry and Technology Prague, Czech Republic)	
09:00 – 09:20: Ion Errea (CFM-UPV, CSIC, Spain)	I
Mechanically stable graphene with quadratic out-of-plane acoustic modes 09:20 – 09:40: Aran Garcia-Lekue (DIPC, Spain)	I
Graphene nanoarchitectures: insights from theory and experiments 09:40 – 09:55: Thomas Kloss (CEA grenoble, France)	O
Tkwant: a software package for time-dependent quantum transport 09:55 – 10:25: Frank Ortmann (TU Munich, Germany)	K
Strong interactions in functional organic materials and devices - a curse or a blessing?	

10:25– 11:30: *Coffee Break / Poster Session / Exhibition*

Chairperson: Frank Ortmann (TU Munich, Germany)	
11:30 – 11:45: Mikel Arruabarrena Larrarte (Centro de Física de Materiales, Spain)	O
Unique Spin-orbit Properties of Magnetic Layered Bulk CoTiO ₃ 11:45 – 12:00: Mariusz Barczak (Maria Curie-Skłodowska University, Poland)	O
Magnetic alginate hydrogels: the role of particles' surface functionalization 12:00 – 12:15: Jacob Johnny (University of Duisburg-Essen, Germany)	O
Gold nanoparticle-induced formation of reactive oxygen species in proton therapy is a surface effect 12:15 – 12:30: Rui Gusmão (University of Chemistry and Technology Prague, Czech Republic)	O
2D Layered MPX3 Performance for Water Splitting Reactions 12:30 – 12:45: Srdjan Stavrić (University of Trieste, Italy)	O
Striking Influence of Nickel Surface Changes on the Growth of Cobalt Nanostructures 12:45 – 13:00: Akash Bachhuka (Rovira i Virgili University (URV), Spain)	O
Nanoengineered surfaces for modulating cell-surface interaction 13:00 – 13:15: Cristina Vicente Manzano (Instituto de Micro y Nanotecnología (IMN-CSIC), Spain)	O
Reduction of the Thermal Conductivity by the Nanostructuring of Electrodeposited CuNi Alloys	
13:15: Closing	