

NanoSpain Conf 2017

07-10, March 2017 San Sebastian (Spain)

TENTATIVE PROGRAM (as of 01/03/2017)

Tuesday (March 07, 2017)

08:15-09:00 **Registration**

09:00-09:15 **Opening Ceremony**

Chair: **Juan Jose Saenz (DIPC, Spain)**

09:15-10:00 **Uzi Landman** (Georgia Tech, USA) P
Small is different: emergent paradigms and atomically precise nano structures

10:00-10:30 **Coffee Break / Poster Session**

Chair: **Luis F. Marsal (Universitat Rovira i Virgili, Spain)**

10:30-11:00 **Javier Aizpurua** (CSIC-UPV/EHU, DIPC, Spain) K
Driving Nanophotonics to the Atomic Scale

11:00-11:30 **Rainer Hillenbrand** (CIC nanoGUNE, Spain) K
Infrared nanoimaging and nanospectroscopy

11:30-11:45 **Gaspar Armelles** (IMM-CNM/CSIC, Spain) O
Active Mid IR plasmonics using Giant Magneto Resistance

11:45-12:00 **Antonio Garcia-Martin** (Instituto de Microelectronica de Madrid - CSIC, Spain) O
Magneto-optical activity in high-index dielectric nanoantennas

12:00-12:15 **Ferry Prins** (ETH Zurich, Switzerland) O
Wavelength-scale patterning of colloidal quantum-dot assemblies: a building block approach to integrated photonics

12:15-12:30 **Alfonso Cebollada** (IMM-CNM/CSIC, Spain) O
Multi-axial Evaporation through Nano-Hole Masks: a 3D-printer for the nanoscale

12:30-12:45 **Aitzol Garcia** (Donostia International Physics Center, Spain) O
Optical vortices in cylindrically symmetric all-dielectric optical scatterers

12:45-13:00 **Alexander Govyadinov** (CIC nanoGUNE, Spain) O
Probing low-energy hyperbolic polaritons in van der Waals crystals with an electron microscope

13:00-14:30 **Cocktail Lunch offered by Nanospain 2017 / Poster Session**

Chair: **Javier Aizpurua (CSIC-UPV/EHU, DIPC, Spain)**

- 14:30-15:00 **Lluis F. Marsal** (Universitat Rovira i Virgili, Spain) I
Tunable optical properties of nanoporous anodic alumina structures by pulse anodisation
- 15:00-15:30 **Romain Quidant** (ICREA-ICFO, Spain) I
Nano-Optomechanics with a levitated nanoparticle in vacuum
- 15:30-15:45 **Christoph Hanske** (CIC biomaGUNE, Spain) O
Macroscale Construction of Plasmonic 3D Supercrystals via Templated Assembly of Monodisperse Gold Nanospheres
- 15:45-16:00 **Marta Quintanilla** (CIC BiomaGUNE, Spain) O
Plasmonic Heaters Monitored in-situ with Nd³⁺-based Nanothermometers as Candidates for Photodynamic Therapy in the Near-Infrared
- 16:00-16:15 **Alexander Johnson** (CIC biomaGUNE, Spain) O
Cell-Detachment from Plasmonically Active Polyethylene Terephthalate (PET) Substrates by Application of Near-Infrared Light
- 16:15-16:45 **F. Sebastián Bergeret** (CFM, CSIC-UPV/EHU, Spain) I
Thermo- and magneto-electric effects in superconducting nanostructures

16:45-17:15 **Coffee Break / Poster Session**

Chair: **Jaume Veciana (ICMAB -CSIC, Spain)**

- 17:15-17:45 **Luis Liz-Marzán** (CIC BiomaGUNE, Spain) K
High Yield Seeded-Growth of Anisotropic Gold Nanoparticles
- 17:45-18:15 **Jan Skov Pedersen** (Aarhus University, Denmark) K
Determination of structure of nanoparticles by small-angle x-ray scattering: Application to LDL lipoproteins and to refolding of SDS-denatured proteins
- 18:15-18:30 **Ivan Infante** (Vrije Universiteit Amsterdam, Netherlands) O
Understanding the Surface of CdSe Semiconductor Nanocrystals with Computational Chemistry
- 18:30-18:45 **Eva Mateo-Marti** (Centro de Astrobiología (INTA/CSIC), Spain) O
Pyrite surface pre-treatment drives molecular adsorption: cystine on pyrite(100) investigated by X-ray photoemission spectroscopy and low energy electron diffraction
- 18:45-19:00 **Solène Passemard** (Institut de Ciència de Materials de Barcelona ICMAB-CSIC, Spain) O
Synthesis of Fluorescent Nanovesicles Quasomes for Bioimaging
- 19:00-19:15 **Dorleta Jimenez de Aberasturi** (CIC biomaGUNE, Spain) O
Plasmonic nanoparticles in organic suspensions: phase transfer and applications

Wednesday (March 08, 2017)

Chair: **Claire Wilhelm (University Paris Diderot, France)**

09:00-09:30 **Rafael T. M. de Rosales** (King's College London, UK) K
Tracking nanomedicines in vivo using PET imaging

09:30-10:00 **Jordi Llop** (CIC BiomaGUNE, Spain) I
Radiolabelling and in vivo imaging to assess regional drug distribution after lung administration

10:00-10:15 **Judith Langer** (CIC biomaGUNE, Spain) O
Optical cell imaging with plasmonic nanomaterials

10:15-10:30 **Jagoba Iturri** (BOKU University, Austria) O
Investigating Cell-Substrate and Cell-Cell Interactions by Means of Single-Cell-Probe Force Spectroscopy

10:30-10:45 **Javier Reguera** (CIC BiomaGUNE, Spain) O
Synthesis of Janus Magneto-Plasmonic nanoparticles. Multimodal imaging and SERS detection

10:45-11:00 **Emma Martín Rodríguez** (Universidad Autónoma de Madrid, Spain) O
Overcoming autofluorescence: long luminescence lifetime nanoparticles for time-gated bioimaging

11:00-11:45 **Coffee Break**

Chair: Rafael T. M. de Rosales (King's College London, UK)

11:45-12:15 **Claire Wilhelm** (University Paris Diderot, France) K
(Intra)cellular therapies using magnetic and/or plasmonic nanoparticles : from thermal cancer treatments to tissue engineering and biotransformations

12:15-12:45 **Yossi Paltiel** (The Hebrew University of Jerusalem, Israel) K
Simple Spintronics Devices Based on the Chiral Induced Spin Selectivity (CISS) Effect

12:45-13:00 **Stephen Evans** (University of Leeds, United Kingdom) O
Hollow Gold Nanotubes with Controlled Length and Near-Infrared Absorption for Theranostic Applications

13:00-13:15 **Marco Marradi** (IK4-CIDETEC, Biomaterials Unit, Spain) O
Poly(methacrylic acid)-based single-chain polymer nanoparticles for targeting and imaging pancreatic tumors in vivo

13:15-13:30 **Valery Pavlov** (CIC biomaGUNE, Spain) O
Electrochemical Bioassays Based on Modulated Growth of Quantum Dots

13:30-15:00 **Lunch**

Parallel Workshop NanoBiotechnology – ROOM 1

Chair: Jordi Llop (CIC BiomaGUNE, Spain)

15:00-15:30 **Aitziber López Cortajarena** (CIC BiomaGUNE, Spain) I
Designing biomolecular scaffolds for hybrid functional materials and nano-sensors

15:30-15:45 **Elisabet Xifre-Perez** (University Rovira i Virgili, Spain) O
Physicochemical and optical properties of mesoporous anodic alumina particles and their use in biotechnology

15:45-16:00 **Isabel García** (CIBER-BBN/CIC biomaGUNE, Spain) O
Real-time Galectin Recognition by Dynamic SERS using Glycan-decorated Au Nanoparticles

16:00-16:15 **Nora Ventosa** (Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain) O
Improvement of the Enzymatic Activity of β -Galactosidase Using Nanovesicles with application to Fabry Disease treatment

16:15-16:30 **Malou Henriksen-Lacey** (CIC biomaGUNE, Spain) O
Tunable Nanoparticle and Cell Assembly Using Combined Self-Powered Microfluidics and Microcontact Printing

16:30-16:45 **Elena Laukhina** (CIBER-BBN, NANOMOL, Spain) O
Nanostructured Bioactive Polymeric Layers for Trapping DNA and Proteins

16:45-17:00 **Virginia Martinez-Martinez** (Universidad del País Vasco, UPV-EHU, Spain) O
Tuning of the photophysical properties of core-shell silica nanoparticles for bio-imaging and photodynamic therapy

17:00-17:15 **Diana Rodrigues** (Centre of Biological Engineering, Portugal) O
Hyperthermia produced by magnetic nanoparticles as an alternative method to control a major foodborne pathogen

Parallel Workshop NanoToxicology – ROOM 4

Chair: **Enrique Navarro** (Instituto Pirenaico de Ecología, Spain)

15:00-15:30 **Gerardo F. Goya** (INA - Universidad de Zaragoza, Spain) I
Moving forward with magnetic hyperthermia: can we profit from intracellular clustering of the magnetic nanoparticles

15:30-15:45 **Hisham Alhadlaq** (King Saud University, Saudi Arabia) O
Metal Ferrite Nanoparticles and Toxicity to Normal and Cancerous Cell Lines

15:45-16:00 **Francisca Fernandez-Piñas** (Universidad Autonoma de Madrid, Spain) O
The effect of PVP coatings on internalization and toxicological mechanisms of cerium oxide nanoparticles

16:00-16:30 **Sofía Ricarte Gonzalez** (ITENE, Spain) I
Evaluation of the ecotoxicity and toxicity of graphene by a battery of multitrophic bioassays

16:30-17:00 **M. Laura Soriano Dotor** (Universidad de Cordoba, Spain) I
Fluorescent sensing probes based on QDs immersed into Nanocellulose hydrogels

17:00-17:15 Discussion

17:15-17:45 **Coffee Break / Poster Session**

Parallel Sesssion (PhD Student) – TRACK A – ROOM 1

Chair: **Aitziber López Cortajarena** (CIC BiomaGUNE, Spain)

17:45-18:00 **Rafaela Paz García Álvarez** (CIC biomaGUNE, Spain) O
In Vivo Protein Corona Formation on Gold Nanoparticles of Various Size and Shape

18:00-18:15 **Maria Sanroman** (CIC biomaGUNE, Spain) O
Sensitivity Limit of Nanoparticle Biosensors in the Discrimination of Single Nucleotide Polymorphism

18:15-18:30 **Paula Ciaurriz** (Cemitec, Spain) O
Optical nanoimmunosensor based on periodic array of resonant nanopillars for real time detection of Okadaic Acid

- 18:30-18:45 **Inmaculada Jénnifer Gómez Pérez** (Università degli Studi di Trieste, Italy) O
Carbon NanoDots: New NanoCarriers for Drug Delivery
- 18:45-19:00 **Wynand Dednam** (Universidad de Alicante, Spain) O
Modelling emergent effects in low coordination geometries during metallic nanojunction formation
- 19:00-19:15 **Martin Ludueña** (Univesità di Studio di Trieste- Italy , Italy) O
Atomistic modeling of adsorbed thiolates on Au nanoparticles (GNP). Study of the effect of the capping layer on the GNP's melting temperature

Parallel Sesssion (PhD Student) – TRACK B – ROOM 4

Chair: Antonio Garcia-Martin (Instituto de Microelectronica de Madrid - CSIC, Spain)

- 17:45-18:00 **Francisco Javier Alfaro Mozaz** (Asociación CIC nanoGUNE, Spain) O
Near-field imaging of resonating hyperbolic polaritons in nanorod antennas made of boron nitride
- 18:00-18:15 **Marc Barbry** (Centro de Física de Materiales (CSIC-UPV/EHU), Spain) O
Nanoplasmonics from large-scale ab initio calculations: opposite trends in Ag and Na clusters
- 18:15-18:30 **Angela Barreda** (Universidad de Cantabria, Spain) O
High Refractive Index dielectric dimer as element unit for switching devices
- 18:30-18:45 **Hua Yu Feng** (IMM-CNM/CSIC, Spain) O
Optical Chirality in the Stacked 3D Ring-Split Ring Nanostructure
- 18:45-19:00 **Guillermo González** (CIC biomaGUNE, Spain) O
Femtosecond Laser-Controlled Tip-to-Tip Assembly and Welding of Gold Nanorods
- 19:00-19:15 **Rebeca Sola** (University of the Basque Country, Spain) O
Development of nanostructured host-guest hybrid material for Non-Linear Optics
- 21:00 **Conference Dinner** - Sidreria Beharri, Narrica 22, 20003 San Sebastián - Donostia -

Thursday (March 09, 2017)

Chair: Juan Jose Saenz (DIPC, Spain)

- 09:30-09:45 **Antonio Faustino Muñoz Moner** (Autonomous University of Bucaramaga, Colombia) O
Development of new models and systems to micro- and nanoscale supported in high-precise functional replication of the clone instrumentation of MEMS and NEMS as products of the researchs of the Nanotechnology Laboratory FOSUNAB
- 09:45-10:00 **Sandra Rodriguez** (Laboratory for Chemistry of Novel Materials , Belgium) O
Fermi Level Pinning and Orbital Polarization Effects in Molecular Junctions
- 10:00-10:15 **Peter Koval** (Donostia International Physics Center (DIPC), Spain) O
Efficient GOWO using localized basis sets: a benchmark for molecules
- 10:15-10:30 **Damien Thompson** (Bernal Institute - University of Limerick, Ireland) O
Rational design of supramolecular devices

10:30-10:45 Federico Marchesin (SIMUNE Atomistic Simulations, Spain) The SIESTA Code: Basis Set Construction Strategy. Comparing Solid State DFT Codes	O
10:45-11:00 Giancarlo Franzese (Universitat de Barcelona, Spain) Understanding the Kinetics of Protein-Nanoparticle Corona Formation	O
11:00-11:30 Roberto D'Agosta (UPV/EHU and IKERBASQUE, Spain) Novel theories for the thermoelectric effect	I
11:30-12:00 Coffee Break	
12:00-13:00 Poster Session	
13:00-14:30 Lunch	
Chair: To be defined	
14:30-15:00 Thomas Mueller (Vienna University of Technology, Austria) 2D nanoscale electronics and optoelectronics	K
15:00-15:30 Alessandro Molle (CNR-IMM, Italy) Atomic manipulation and morphology engineering in two-dimensional materials: from buckled Xenes to anisotropic MoS ₂	I
15:30-15:45 Pablo Alonso González (University of Oviedo, Spain) Acoustic THz graphene plasmons revealed by photocurrent nanoscopy	O
15:45-16:00 Alexey Nikitin (Asociación CIC nanoGUNE, Spain) Sheet and edge plasmonic modes in shaped graphene nanoresonators	O
16:00-16:15 Alicia de Andres (Instituto de Ciencia de Materiales de Madrid - CSIC, Spain) Efficient Combination of Interference and Plasmon Resonance Raman Amplification by Optimized Heterostructures for Optical microscopy and Molecule Detection	O
16:15-16:30 Stephen Power (Catalan Institute of Nanoscience and Nanotechnology (ICN2), Spain) Mapping commensurability orbits in graphene antidot lattices	O
16:30-17:00 Coffee Break / Poster Session	
Chair: Thomas Mueller (Vienna University of Technology, Austria)	
17:00-17:30 Aitor Mugarza (ICREA-ICN2, Spain) Spin-dependent electron scattering in 2D electron systems	I
17:30-17:45 Paolo Perna (IMDEA NANOCIENCIA, Spain) Spin-Orbit driven effects in graphene based perpendicular magnetic anisotropy structures	O
17:45-18:15 Yolanda de Miguel (Tecnalia, Spain) Multisectorial applications of graphene	I
18:15-18:30 Javier Martinez Rodrigo (ISOM, Spain) Automated Graphene Transfer System for Graphene solar cells	O
18:30-18:45 Lorena Ugarte (University of the Basque Country (UPV/EHU), Spain) Polyurethane foam/graphene nanocomposites	O

18:45-19:00 **Thomas Frederiksen** (Donostia International Physics Center (DIPC), Spain) 0
An electronic beam splitter realized with crossed graphene nanoribbons

19:00-19:15 **Daniel Phifer** (Thermo Fisher Scientific (formerly FEI), The Netherlands) 0
Characterization of nanoparticle materials with Advanced SEM

Friday (March 10, 2017)

Chair: **Marta Brizuela** (Tecnalia, Spain)

09:00-09:15 **Olatz Adarraga** (Tecnalia, Spain) 0
Analysis of the robustness of Hierarchical hydrophilic and hydrophobic nanostructures

09:15-09:30 **Gerald Kada** (Keysight Technologies Nanomeasurements Division, Austria) 0
Scanning Microwave Microscopy for Complex Material Characterization

09:30-09:45 **Gabriela Calderó** (CIBER-BBN, Institute of Advanced Chemistry of Catalonia., Spain) 0
Formation and characterization of perfluorocarbon nanocapsules as promising microbubble precursors for blood-brain barrier opening

09:45-10:00 **Irati Barandiaran** (Euskal Herriko Unibertsitatea (UPV/EHU), Spain) 0
Nanocomposites based on SBM triblock copolymer and Ag nanoparticles: morphological and dielectric analysis

10:00-10:15 **Thomas Hendel** (Centro de Física de Materiales (CSIC-UPV/EHU), Spain) 0
In Situ Determination of Colloidal Gold Concentrations with UV-Vis Spectroscopy: Limitations and Perspectives

10:15-10:30 **Peter Lambertz** (Leybold, Germany) 0
Physics of turbomolecular pumps and demonstration of conductance influence in HV

10:30-11:00 **Maite Alducin** (CFM-CSIC-UPV/EHU, Spain) 1
Triggering reactions on metal surfaces with femtosecond laser pulses

11:00-11:30 Coffee Break

Chair: **Maite Alducin** (CFM-CSIC-UPV/EHU, Spain)

11:30-11:45 **Sofía Rodríguez** (nanoscribe, Germany) 0
New standards in 3D micro printing

11:45-12:00 **Marisol Martín-González** (IMM-CNM/CSIC, Spain) 0
Nanoengineering properties through porous alumina

12:00-12:15 **Leire Bilbao** (Tecnalia, Spain) 0
Conductor films based on AgNWs spin-coated on glass substrates

12:15-12:30 **Olga Caballero-Calero** (IMM-CNM/CSIC, Spain) 0
New developments on Thermoelectric Materials: reducing scale and dimensionality

- 12:30-12:45 **Eric Hill** (CIC biomaGUNE, Spain) O
Clay-Metal Hybrid Nanoparticles towards Plasmonic Materials
- 12:45-13:00 **Dirk Ortgies** (Universidad Autónoma de Madrid, Spain) O
Hybrid magnetic and luminescent nanostructures for self-monitored photothermal therapy
- 13:00-13:15 **Leire Ruiz Rubio** (University of the Basque Country (UPV/EHU), Spain) O
Highly ordered honeycomb polystyrene patterns decorated with polyoxometalates for catalytic applications
- 13:15-13:45 **Marta Brizuela** (Tecnalia, Spain) I
Nanostructured coatings: from lab to application
- 13:45 **Closing remarks & nanospain2018 announcement**