

NanoSpain Conf 2016

March 15-18, 2016 Logroño (Spain)

TENTATIVE PROGRAM (as of 11/03/2016)

Tuesday (March 15, 2016)

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

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

Chair: **Antonio Correia** (Phantoms Foundation, Spain)

09:15-10:00 **Pedro Miguel Echenique** (DIPC, Spain)
Surface attophysics

10:00-10:45 **Coffee Break / Poster Session**

Chair: **Antonio Garcia-Martin** (IMM-CSIC, Spain)

10:45-11:15 **Ofra Benny** (The Hebrew University of Jerusalem, Israel)
Targeting Tumors with Solidified Polymer Micelles

11:15-11:45 **Danny Porath** (The Hebrew University of Jerusalem, Israel)
The Quest for Charge Transport in single Adsorbed Long DNA-Based Molecules

11:45-12:15 **Jean-Olivier Durand** (Institut Charles Gerhardt Montpellier - CNRS, France)
Mesoporous silica, periodic mesoporous organosilica, and mesoporous silicon nanoparticles for drug delivery and two-photon Photodynamic Therapy

12:15-12:45 **Arben Merkoçi** (ICREA/ICN2, Spain)
Diagnostic devices using graphene and other nanomaterials

12:45-13:00 **Valery Pavlov** (CIC BiomaGUNE, Spain)
Enzymatic etching of nanoparticles in biosensing

13:00-14:30 **Cocktail Lunch offered by Nanospain 2016 / Poster Session**

Chair: **Arben Merkoçi** (ICREA/ICN2, Spain)

14:30-15:00 **Rainer Hillenbrand** (CIC nanoGUNE and IKERBASQUE, Spain)
Nanoimaging and manipulation of polaritons in graphene and boron nitride

15:00-15:30 **Juan Carlos Cuevas** (UAM, Spain)
Near-field radiative heat transfer at the nanoscale

15:30-16:00 **Antonio Garcia-Martin** (IMM-CSIC, Spain)
Sensing Performance of Hybrid Magnetoplasmonic Nanohole Arrays

16:00-16:15 **Luca Bergamini** (UPV/EHU, CFM, CSIC-UPV/EHU and DIPC, Spain)
Ultrafast control of plasmonic nanoantennas driven by hot-spot induced phase-transitions in VO₂

16:15-16:45 **Sascha Sadewasser** (INL, Portugal)
INL next decade - a general perspective and a specific look at INL's energy research

16:45-17:00 **Jesús R. Berenguer** (Universidad de La Rioja, Spain)
Design of mesoporous hybrid titania for solar light harvesting using coordination transition metal complexes as building blocks

17:00-17:15 **Roderick Melnik** (MS2Discovery Institute (Canada) & BCAM (Spain))
Coupling, geometric phases, and properties of quantum dots: analytics and numerics for the Berry phase case

17:15-17:30 **Matthias Fenner** (Keysight Technologies, Germany)
Improved Method for Probing Resistivity and Doping Concentration of Semiconductors at the Nanoscale Using Scanning Microwave Microscopy (SMM)

17:30-18:00 Coffee Break / Poster Session

Chair: **Enrique Navarro** (Pyrenean Institute of Ecology, Spain)

18:00-18:30 **Enrico Sabbioni** (CeSI, G. d'Annunzio University Foundation, Italy)
Nanotoxicology for safe development of nanomaterials: light and shadows

18:30-18:45 **Carlos Fito** (ITENE, Spain)
Lessons from case studies: exposure to engineered nanomaterials and effectiveness of workplace controls in the polymer nanocomposites industry

18:45-19:00 **Uxua Pérez de Larraya** (CEMITEC, Spain)
Synthesis of iron based nanoparticles in presence of nanocellulose for contaminant removal

19:00-19:30 **Patrick Chaskiel** (Université Paul Sabatier, France)
From "beneficial properties" to the "benefits" of nanos : a social process

Wednesday (March 16, 2016)

Chair: **Paolo Bondavalli** (THALES Research and Technology, France)

09:00-09:15 **Johann G. Meier** (ITAINNOVA, Spain)
On the peculiar mechanical and tribological behavior of polymer nanocomposites with nanotubes of WS₂ and nanowires of MoS₂/I₈

09:15-09:45 **Alain Pénicaud** (Université Bordeaux, France)
Additive Free, Single Layer Graphene in Water

09:45-10:15 **Francesco Bonaccorso** (IIT Graphene Labs, Italy)

Graphene, other 2D crystals and hybrid superstructures for energy and (opto)electronic applications

10:15-10:45 **Coffee Break**

10:45-11:30 **Poster Session**

Chair: **Alain Pénicaud** (Université Bordeaux, France)

11:30-12:00 **Paolo Bondavalli** (THALES Research and Technology, France)
Nanomaterials for different applications: sensing, energy storage and memories

12:00-12:30 **Helge Weman** (CrayoNano AS, Norway)
Epitaxial growth of semiconductor nanostructures on graphene: Generic model and a potential first device application

12:30-13:00 **Andrew J. Pollard** (National Physical Laboratory, UK)
Metrology for Graphene and 2-D Materials: Characterisation and Standardisation for an Emerging Industry

13:00-14:30 **Lunch**

PARALLEL SESSION – TRACK A

Chair: **Dario Bercioux** (DIPC, Spain)

14:30-15:00 **Julio Gomez** (UAM, Spain)
Mechanical properties of fluctuating graphene

15:00-15:30 **Fabienne Barroso** (DIPC, Spain)
Extreme 2D-confinement of polymers in graphene-based materials

15:30-16:00 **Pedro Gomez-Romero** (ICN2, Spain)
Spicing Graphene with electroactive inorganic compounds: Graphene hybrid nanocomposites for energy storage

16:00-17:00 **Coffee Break / Poster Session**

Chair: **Pedro Gomez-Romero** (ICN2, Spain)

17:00-17:30 **Frank Koppens** (ICREA/ICFO, Spain)
Photons, Plasmons and Electrons meet in 2d materials

17:30-18:00 **José María Navas Antón** (INIA, Spain)
Graphene interaction with cellular structures and potentiating action on environmental pollutants effects

18:00-18:15 **Jose Miguel Martin Martinez** (University of Alicante, Spain)
Improvement of the toughness of PMMA-based acrylic resin for dental application by adding small amounts of graphene nanoparticles

18:15-18:45 **Dario Bercioux** (DIPC, Spain)
Mode splitting in zigzag carbon nanotubes

18:45-19:00 **Massimiliano Bartolomei** (Instituto de Fisica Fundamental - CSIC, Spain)
Hydrogen physisorption and intercalation in novel nano-porous graphites

PARALLEL SESSION – TRACK B

Chair: **Mar Garcia Hernandez** (ICMM-CSIC, Spain)

14:30-15:00 **Julio Gomez** (Avanzare, Spain)
Bulk graphene preparation for energy and composites applications

15:00-15:30 **Alba Centeno** (Graphenea, Spain)
Graphene status and needs for industry integration

15:30-15:45 **Elvira Villaro Ábalos** (Interquímica, Spain)
Manufacturing and characterization of high electrical conductivity structural epoxy graphene composites

15:45-16:00 **Izaskun Bustero** (Tecnalia, Spain)
Graphene-based composites for thermal management applications

16:00-17:00 Coffee Break / Poster Session

Chair: **Alba Centeno** (Graphenea, Spain)

17:00-17:15 **Mar Garcia Hernandez** (ICMM-CSIC, Spain)
GRAPHENET: The Spanish Graphene Network

17:15-17:30 **Pilar de Miguel** (CDTI, Spain)
CDTI: Funding Opportunities for Graphene

17:30-17:45 **Inmaculada Cabrera** (CDTI, Spain)
EUREKA Cluster "Graphene & 2D Materials"

17:45-18:00 **Lucía González Bermúdez** (GrapheneTech, Spain)
Industrial Graphene nanoplatelets possibilities

18:00-18:15 **Nuria Campos Alfaraz** (Graphene Square Europe, Spain)
Advanced CVD systems for the synthesis of two-dimensional materials beyond graphene

18:15-18:45 **Cesar Merino** (Grupo Antolin, Spain)
Large scale conversion of helical-ribbon carbon nanofibres to graphene related materials

Thursday (March 17, 2016)

Chair: **Gianluca Farinola** (Università degli Studi di Bari "Aldo Moro", Italy)

09:00-09:30 **Klaus Ensslin** (ETH Zurich, Switzerland)
Mesoscopic thermodynamics in nanostructures

09:30-09:45 **Manuel López López** (Universidad de Huelva, Spain)
Do strong surfactant/swcnt-cooh interactions assure good dispersion quality?

09:45-10:00 **Samuel Mañas-Valero** (University of Valencia - ICMol, Spain)
Transition metal chalcogenides in the 2D limit: superconductivity in 2H-TaS₂

10:00-10:30 **Jean-Christophe Charlier** (University of Louvain, Belgium)
Electronic transport in 1D atomic carbon chains and in 2D conjugated polymer networks

10:30-11:00 **Coffee Break**

Chair: Jean-Christophe Charlier (University of Louvain, Belgium)

11:00-11:30 **Lars Samuelson** (Lund University, Sweden)
From basic Nanowire research to real-world applications

11:30-11:45 **Enrique Barrigon** (Division of Solid State Physics / Nanolund, Sweden)
Shell material assessment for GaAs-based nanowire solar cells

11:45-12:15 **Lise-Marie Lacroix** (LPCNO - UPS, France)
Nanoparticles with optimized properties : from chemical synthesis to assembly A bottom-up approach for nanostructured materials

12:15-12:45 **Gianluca Farinola** (Università degli Studi di Bari "Aldo Moro", Italy)
Smart nanomaterials built up from functional organic molecules and photosynthetic microorganisms

12:45-13:00 **Javier Reguera Gomez** (CIC BiomaGUNE, Spain)
Patchy nanoparticles at the air-liquid interface: contact angles and adsorption energies measured by neutron reflectivity

13:00-13:15 **Miguel Monge** (Universidad de la Rioja, Spain)
Ultrathin Gold-Silver Nanorods and Nanowires Stabilized with Long Alkyl Chain Carboxylic Acids: Synthesis and Plasmonic Properties

13:15-13:30 **Aleksei Savenko** (FEI Company, Netherlands)
Broadening of FIB applications using Xe plasma FIB

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

PARALLEL SESSION – NanoBiotechnology

Chair: Angel Millan (Instituto de Ciencia de Materiales de Aragón, Spain)

15:00-15:30 **Mercedes Vila** (CTECHnano, Spain)
Atomic layer deposition: medical and biological applications

15:30-16:00 **Lorenzo Albertazzi** (Institute for Bioengineering of Catalonia (IBEC), Spain)
Nanoscopy for Nanomedicine: looking at nanomaterials one molecule at a time

16:00-16:15 **Oihane Ibarrola** (Biopraxis Research AIE (Praxis Pharmaceutical), R& D Department, Spain)
Nanomedicine, from PoC to reality: the importance of an industrial perspective and GMP scale

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

Chair: Lorenzo Albertazzi (Institute for Bioengineering of Catalonia (IBEC), Spain)

17:15-17:30 **Angel Millan** (Instituto de Ciencia de Materiales de Aragón, Spain)
High time resolution thermometry on a magnetic nanoheater. A new tool for hyperthermia

17:30-17:45 **Antonio Ardizzone** (Institut de Ciència de Materials de Barcelona, Spain)
Quatsomes: Promising Highly Stable Nanovesicles for Drug Delivery

17:45-18:00 **Ruta Grinyté** (CIC BIOMAGUNE, Spain)
Facile and inexpensive biocatalytic method for resizing of semiconductor cadmium sulfide nanoparticles

18:00-18:15 **Miguel Ángel Ruiz Fresneda** (University of Granada, Spain)
Fabrication and molecular scale characterization of selenium nanoparticles produced by *Stenotrophomonas* sp. BII-R7

PARALLEL SESSION – NanoChemistry

Chair: Jordi Faraudo (ICMAB-CSIC, Spain)

15:00-15:30 **Felix Zamora** (UAM, Spain)
Conductive Coordination Polymers at the Nanoscale

15:30-16:00 **Julio A. Alonso** (Universidad de Valladolid, Spain)
Adsorption and storage of hydrogen in porous and layered materials

16:00-16:15 **Alex Bondarchuk** (CIC energiGUNE, Spain)
Vanadium nitride thin films and nanoclusters: combined XPS and electrochemical characterization

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

Chair: Julio A. Alonso (Universidad de Valladolid, Spain)

17:15-17:45 **Jordi Faraudo** (ICMAB-CSIC, Spain)
Self-assembly of organic molecules onto surfaces: computer simulations

17:45-18:00 **Pablo Villarreal** (CSIC /Instituto de Física Fundamental, Spain)
Structure and Spectroscopy of Helium Nanodroplets Doped with Molecular Impurities at Low Temperatures

18:00-18:15 **Gema Maria Duran Lizcaino** (University of Castilla La Mancha, Spain)
CdSe/ZnS Quantum Dots for Improving Detection Capabilities in Analytical Processes

18:15-18:30 **Isabelle Sicé** (MICROTEST, France)
ALD deposition of AlN for AlN/NbN multilayers

18:30-18:45 **Natascia Grimaldi** (Nanomol Technologies SA, Spain)
CO₂-based-surfactant-free microemulsions-like system as futurist universal green medium for chemical processes

18:45-19:00 **Nerea Epelde Elezcano** (University of the Basque Country, Spain)
Photosensitizer-Silica Nanoparticle as Platform for Photodynamic Therapy

Friday (March 18, 2016)

Chair: **Alvaro Diez Rubio** (Footwear Technology Center of La Rioja (CTCR), Spain)

09:00-09:30 **Jose Ignacio Pascual** (CIC nanoGUNE, Spain)

Single-molecule spintrometry: measuring and tuning the spin states of a molecule with STM

09:30-09:45 **César González** (Service de Physique de l'Etat Condensé. CEA/Saclay, France)

Detection of Inorganic Molecules on reactive MoS₂ defects by ab-initio Atomic Force Microscopy Simulations

09:45-10:00 **Nicolas F. Martinez** (Scientec Iberica, Spain)

Bimodal HD-KFM and Resiscope Atomic Force Microscopy characterization of bidimensional materials and solar cells.

10:00-10:30 **Paulo Ferreira** (The University of Texas at Austin, USA)

The Science of the Small: Understanding the Coalescence of Nanoparticles by Advanced Transmission Electron Microscopy

10:30-11:00 **María Varela del Arco** (Universidad Complutense de Madrid, Spain)

Aberration corrected views into the nano-world

11:00-12:00 Coffee Break / Poster Session

Chair: **Jose Ignacio Pascual** (CIC nanoGUNE, Spain)

12:00-12:15 **Enrique Burzuri** (Kavli Institute of Nanoscience. Delft University of Technology., Netherlands)

Kondo effect and magnetic exchange inversion in neutral and stable organic radical single molecule break junctions

12:15-12:30 **Alvaro Diez Rubio** (Footwear Technology Center of La Rioja (CTCR), Spain)

Towards the nanotechnology in the footwear sector

12:30-12:45 **Juan Francisco Muñoz Martínez** (Universidad Autónoma de Madrid, Spain)

Electrophoretic vs. dielectrophoretic forces in 2D optoelectric nanoparticle patterning

12:45-13:00 **Pablo Díaz Núñez** (Instituto de Fusion Nuclear, UPM, Spain)

Effect of organic stabilizers over silver nanoparticles fabricated by femtosecond pulsed laser ablation

13:00 **Closing remarks & nanospain2017 announcement**