



Tentative Program (as of 14/11/2014)

Tuesday – November 18, 2014

08:00-09:00 Registration

09:00-09:15 Opening

Chair: Josep Samitier (IBEC, Spain)

09:15-09:45 **Simo Schwartz Navarro** (Vall d'Hebron Hospital - CIBBIM, Spain) K
Personalized Cancer Nanomedicine. CLINAM 2014.

09:45-10:15 **Victor Puentes** (Institut Català de Nanociència i Nanotecnologia (ICN2) & ICREA, Spain) K
Nanomedicine 2.0.

10:15-10:35 **Mercedes Vila** (University of Aveiro, Portugal) I
Nanographene-oxide mediated hyperthermia for cancer treatment

10:35-11:20 **Coffee Break - Poster Session & Exhibition**

Chair: Simo Schwartz Navarro (Vall d'Hebron Hospital - CIBBIM, Spain)

11:20-11:50 **Jaume Veciana** (ICMB-CSIC - CIBER-BBN, Spain) K
Supramolecular organizations as novel nanomedicines for drug delivery

11:50-12:05 **Patricia Vicendo** (Laboratoire des IMRCP, Université de Toulouse, France) O
Polymeric micelles nanovectors for photodynamic therapy applications: From the structure to the activity

12:05-12:20 **Juan Manuel Serrano Núñez** (Sesderma Laboratories, Spain) O
Liposomes: Topical and Oral Bioavailability

12:20-12:40 **Anna Lagunas** (Institut de Bioenginyeria de Catalunya (IBEC), Spain) I
Large-scale dendrimer-based uneven nanopatterns of RGD towards improved architectural networks in chondrogenesis

12:40-12:55 **Julian Pardo** (INA – Universidad de Zaragoza, Spain) O
Bona fide induction of apoptosis in transformed cells during photothermal therapy using gold nanoprisms

12:55-13:25 **Samuel Sánchez** (Max Planck Institute for Intelligent Systems, Germany) K
Self-powered microbots towards a “Fantastic Voyage”

13:25-15:00 **Cocktail Lunch (offered by NanoBio&Med 2014) - Poster Session & Exhibition**

Chair: Jaume Veciana (Institut de Ciència de Materials de Barcelona (CSIC)-CIBER-BBN, Spain)

15:00-15:30 **Ester Polo** (CBNI / University College Dublin, Ireland) K
A microscopic molecular basis for Nanoparticle Interactions with Organisms

15:30-15:50 **Jordi Llop Roig** (CIC biomaGUNE, Spain) I
Following the degradation and biological fate of polymeric poly (lactic-co-glycolic acid) nanoparticles

15:50-16:05 **Sheila Contant** ((IQAC) /CSIC /CIBER-BBN, Spain) O
Preparation of Colloidal Dispersions of Magnetic Nanoparticles Coated with Biocompatible Polymers

16:05-16:20 **Juan Diego Unciti Broceta** (Centre for Genomics and Oncological Research, Spain) O
Multiplicity of Nanofection: a New Index to Assess Nanoparticle Cellular Uptake

16:20-16:35 **Eduardo Antonio Della Pia** (University of Copenhagen/Nano Science Center, Denmark) O
Conducting polymers as a versatile platform for protein nanoarrays technologies

16:35-17:30 **Coffee Break - Poster Session & Exhibition**

Chair: Victor Puntès (Institut Català de Nanociència i Nanotecnologia (ICN2) & ICREA, Spain)

17:30-18:00 **M.-Pilar Marco** (IQAC-CSIC/CIBER-BBN, Spain) K
Biofunctional surfaces for multiplexed diagnostic platforms using Site-Encoded DNA strategies

18:00-18:30 **Ramon Eritja** (IBMB-CSIC, Spain) K
Development of modified siRNA for gene silencing

Wednesday – November 19, 2014

Chair: Pau Gorostiza (ICREA & IBEC, Spain)

09:00-09:30 **Notburga Gierlinger** (BOKU, Austria & ETH Zurich, Switzerland) K
Imaging molecular structure of plant cells by Confocal Raman microscopy

09:30-10:00 **Laurent Cognet** (CNRS & Université de Bordeaux, France) K
Single-molecule and super-resolution microscopies in biology: taking the best of fluorescent dyes, gold nanoparticles and carbon nanotubes

10:00-10:15 **Oscar Domenech** (University of Barcelona, Spain) O
Lipid composition modulates nanomechanics of transmembrane proteins

10:15-10:30 **Jordi Alcaraz** (University of Barcelona, Spain) O
Aberrant mechanical microenvironment in lung cancer probed at the micro- and nano-scales

10:30-11:30 **Coffee Break - Poster Session & Exhibition**

Chair: Laurent Cognet (CNRS & Université de Bordeaux, France)

11:30-12:00 **Frank Scheffold** (University of Fribourg, Switzerland) K
Scattering based bead-microrheology applied to biomaterials

12:00-12:30 **Yannick Guari** (Université Montpellier II, France) K
Cyano-bridged coordination polymers nanoparticles as contrast agents for biomedical imaging

12:30-13:00 **Pau Gorostiza** (ICREA & IBEC, Spain) K
Optopharmacology to regulate endogenous proteins with light

13:00-13:30 **Juan José Sáenz** (Universidad Autónoma de Madrid, Spain) K
Speckle fluctuations resolve the interdistance between incoherent point sources in complex media

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

Chair: Mateu Pla-Roca (Nanotechnology Platform, IBEC, Spain)

15:00-15:30 **Nava Swersky Sofer** (ICA, Israel) K
From Science to Product, in Israel and Beyond

15:30-16:00 **Consuelo Espejo Rodriguez** (OEPM, Spain) K
How can I protect my invention? BioMed Patents

16:00-16:15 **Nicolás Cassinelli** (nb NanoScale Biomagnetism, Spain) O
Setting a standard in magnetic heating of nanoparticles for bioapplications

16:15-16:30 **María Blázquez** (INKOA SISTEMAS, SL, Spain) O
Selection of Nanotechnology enabled products for nano-release assessment throughout their life cycle in the nanosolutions project

16:30-17:20 **Coffee Break - Poster Session & Exhibition**

Chair: Nava Swersky Sofer (ICA, Israel)

17:20-17:50 **Mateu Pla-Roca** (Nanotechnology Platform, IBEC, Spain) K
Nanotechnology Platform at the Institute for Bioengineering of Catalonia: description of capabilities and examples

17:50-18:10 **Ernest Mendoza** (Universitat Politècnica de Catalunya / Goldemar, Spain) I
From Basic Research to an Industrial Product: The case of Goldemar

18:10-18:25 **Rémy Brossel** (Cell Constraint & Cancer SA, France) O
Action of mechanical Cues in vivo on the Growth of a subcutaneously grafted Tumor: Proof of Concept

18:25-18:40 **Ismael Rodea Palomares** (Universidad Autónoma de Madrid, Spain) O
PAMAM dendrimers internalizes quickly in microalgae and cyanobacteria causing toxicity and oxidative stress

21:00 Conference Dinner – Restaurant Patron

Thursday – November 20, 2014

Chair: Tomaso Zambelli (ETH Zurich, Switzerland)

09:00-09:30 **Simon Benita** (The Hebrew University of Jerusalem, Israel) K
Improved Oral Absorption of Exenatide using a Novel Nanoencapsulation and Microencapsulation Approach

09:30-10:00 **Ofra Benny** (The Hebrew University of Jerusalem, Israel) K
Nanomicelles for Targeting the Tumor Microenvironment

10:00-10:30 **Danny Porath** (Hebrew University of Jerusalem, Israel) K
The Quest for Charge Transport in single Adsorbed Long DNA-Based Molecules

10:30-11:00 **Avi Schroeder** (Technion - Israel Institute of Technology, Israel) K
Targeted drug delivery and personalized medicine

11:00-11:30 **Oded Shoseyov** (The Hebrew University of Jerusalem, Israel) K
Nano crystalline cellulose-protein composites: Super performing biomaterials for tissue engineering and regenerative medicine

11:30-13:30 **Poster Session & Coffee Break - Poster Session & Exhibition**

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

15:00-16:30 **Parallel Sessions (pHd students – 6 x 2)**

Chair: Jose Luis Toca Herrera (BOKU / Institute for Biophysics, Austria)

pHd students I - Topics: Bio-Inspired nanotechnologies, Bio-nano measurement and microscopy, Drug Delivery & Nanoassemblies / Surfaces.

15:00-15:15 **Luis G. Rigat-Brugarolas** (IBEC & CIBER-BBN, Spain)
Developing new tools for drug testing: introducing a microfluidic platform mimicking the spleen for future pharmacological trials

15:15-15:30 **Stephan Stremersch** (Ghent University, Belgium)
Hijacking nature's own communication system: evaluation of extracellular vesicles as a siRNA delivery vehicle

15:30-15:45 **Juan José Uriarte** (Universitat de Barcelona, Institut d'Investigacions Biomèdiques August Pi Sunyer & CIBER de Enfermedades Respiratorias, Spain)
Nanomechanics of Decellularized Lung and in Vivo Lung Elastance in a Murine Model of Marfan Syndrome

15:45-16:00 **Cristina Fornaguera** (IQAC-CSIC & CIBER-BBN, Spain)
Polymeric nanoparticles, prepared from nano-emulsion templating, as novel advanced drug delivery systems crossing the Blood-Brain Barrier

16:00-16:15 **Roberto Paoli** (Institute for Bioengineering of Catalonia (IBEC), Spain)
DC studies of Layer-by-layer nanopores electrical properties tuning on Polycarbonate Membranes

Chair: Ismael Rodea Palomares (Universidad Autónoma de Madrid, Spain)

pHd students II - Topics: Far Future Challenges, Nanomaterials for Bio and Medical Applications & NanoMaterials for Medicine

15:00-15:15 **Cristina Paez Aviles** (University of Barcelona, Spain)
Cross-cutting KETs: Innovation and Industrialization challenges for Nanobiotechnology and Nanomedicine towards Horizon 2020

15:15-15:30 **Witold I. Tatkiewicz** (ICMAB-CSIC & CIBER-BBN, Spain)
2D Microscale Surface Engineering with Novel Protein based Nanoparticles for Cell Guidance

15:30-15:45 **Anastasia Kanioura** (Institute of Nuclear and Radiological Sciences & Technology, Energy & Safety, NCSR "Demokritos", Greece)
Effect of nanoscale surface roughness on the adhesion and proliferation of normal skin fibroblasts and HT1080 fibrosarcoma cells

15:45-16:00 **Tetyana Yudina** (The Catalan Institute of Nanoscience and Nanotechnology (ICN2), Spain)
Nanoceria

16:00-16:15 **Ana Lilia Barrán Berdón** (Universidad Complutense de Madrid, Spain)
Calix[4]arene TMAC4 as efficient non-viral vector in gene therapy

16:15-16:30 **Paula Soares** (Universidade Nova de Lisboa, Portugal)
Studies on thermal and magnetic properties of iron oxide nanoparticles for magnetic hyperthermia application

16:30-17:30 **Coffee Break - Poster Session & Exhibition**

Chair: Danny Porath (Hebrew University of Jerusalem, Israel)

17:30-18:00 **Daniel Navajas** (UB / IBEC and CIBER of Respiratory Diseases, Spain) K
Nanomechanics of the extracellular matrix of lung and heart tissues

18:00-18:30 **Tomaso Zambelli** (ETH Zurich, Switzerland) K
FluidFM: combining AFM and microfluidics for single-cell perturbation in vitro

18:30-19:00 **Jose Luis Toca Herrera** (BOKU / Institute for Biophysics, Austria) K
Atomic force microscopy, life sciences and soft matter

Friday – November 21, 2014

Chair: Jordi Llop Roig (CIC biomaGUNE, Spain)

09:00-09:30 **Juan Elezgaray** (Université Bordeaux - IECB, France) K
Localized, DNA based logical circuits as components for biodetection

09:30-10:00 **Ioanis Katakis** (Universitat Rovira i Virgili, Spain) K
Screen printed superhydrophobic surfaces as enablers for Capillarity-Driven Biodetection Devices for Food Safety and Clinical Analysis: towards ASSURED sensors

10:00-10:30 **Jakub Dostalek** (Austrian Institute of Technology, Austria) K
Plasmonic biosensors advanced by functional hydrogels

10:30-11:30 **Coffee Break - Poster Session & Exhibition**

Chair: Ioanis Katakis (Universitat Rovira i Virgili, Spain)

11:30-11:45 **Masaki Misawa** (AIST, Japan) O
Radiosensitizing Effect of Gold Nanoparticles under kV- and MV- X-ray Irradiations

11:45-12:00 **Ewelina Wajs** (Universitat Rovira i Virgili, Spain) O
Host-guest engineered stimuli-responsive nanocapsules

12:00-12:15 **Joan-Ramon Daban** (Universitat Autònoma de Barcelona, Spain) O
Use of Nanomechanical Data to Validate a Supramolecular Multilayer Model That Explains the Dimensions, Topology, and Physical Properties of Condensed Metaphase Chromosomes

12:15-12:45 **Giancarlo Franzese** (Universitat de Barcelona, Spain) K
Kinetics of the protein corona assembly on nanoparticles

12:45 **Closing remarks & nanoBioMed2015 announcement**