



MONDAY 15 NOVEMBER

9:30-9:45

OPENING

Cristóbal Belda, Carlos III Health Institute Director
Ramón Martínez Máñez, CIBER-BBN Scientific Director

9:45-10:45

PLENARY LECTURE I

Chair: **M. Pilar Marco**
Vaccines and immunity against SARS-CoV-2. Lessons learned
Julià Blanco, AIDS Research Institute, IrsiCaixa, Barcelona

10:45-11:00

BREAK

11:00-12:30

FLASH RECORDED VIDEO PRESENTATIONS

Chair: **Anna Aviñó**

12:30-12:50

BREAK

12:50-13:50

COLLABORATIVE PROJECTS WITH CIBERONC

Chair: **Ramon Mangues**

12:50-13:10

ALYCIA, Artificial lymph nodes for cancer immunotherapy
Judith Guasch, Institute of Material Science of Barcelona (ICMAB-CSIC)

13:10-13:30

NaTBiL, PDT based on nanoconjugates triggered by biolight
José Miguel López Higuera, University of Cantabria

13:30-13:50

3D in vitro models for neuroblastoma mechanotherapy identification
Josep Samitier, Institute for Bioengineering of Catalonia (IBEC)

13:50-15:00

BREAK

15:00-16:00

YOUNG RESEARCHERS BEST PAPER AWARDS

Chair: **Ramón Martínez Máñez**

EEG-Inception: A Novel Deep Convolutional Neural Network for Assistive ERP-Based Brain-Computer Interfaces
Eduardo Santamaría-Vázquez, University of Valladolid (UVA)

Local delivery of bone morphogenetic protein-2 from near infrared responsive hydrogels for bone tissue regeneration
Silvia Sánchez-Casanova, Hospital La Paz Institute for Health Research (IdiPAZ)

CCL21-loaded 3D hydrogels for T cell expansion and differentiation
Eduardo Pérez del Río, Institute of Material Science of Barcelona (ICMAB-CSIC)

Engineered pH-Responsive Mesoporous Carbon Nanoparticles for Drug Delivery
Miguel Gisbert-Garzarán, Complutense University of Madrid (UCM)

16:00-18:00

INTERNAL COLLABORATIONS

Chair: **Jesús Santamaría**

16:00-16:20

Dendritic carbosilane systems as vectors for microRNA delivery or as antiviral agents against HIV
Rafael Gómez Ramírez, University of Alcalá (UAH)

16:20-16:40

Multiparametric MR data processing and software strategies for cancer response biomarker discovery
Ana Paula Candiota, Autonomous University of Barcelona (UAB)

16:40-17:00

Characterization and resistance to microbial colonization of biodegradable magnesium-based material
María Luisa González Martín, University Extremadura (UEx)

17:00-17:20

Characterization of the influence of physical activity on age-related cardiac function
Esther Pueyo, University of Zaragoza (UZ)

17:20-17:40

Study of the interaction of nanoparticles with tumors by 3D cell culture systems
Isabel García Martín, Center for Cooperative Research in Biomaterials (CIC biomaGUNE)

17:40-18:00

Dynamic and hierarchical nanostructured bio-interfaces and scaffolds towards enhanced cell guidance
Imma Ratera, Institute of Material Science of Barcelona (ICMAB-CSIC)



TUESDAY 16 NOVEMBER

- 9:00-10:00** **PLENARY LECTURE II**
Chair: **Raimon Jané**
Biomedical signal recording and analysis in sleep research
Thomas Penzel, Charité-Universitätsmedizin Berlin
- 10:00-10:40** **“WELCOME TO CIBER” SESSION**
Chair: **Ramón Martínez Máñez**
Underscoring the role of lipid metabolism in ALS
Adolfo López de Munain Arregui, CIBERNED Scientific Director
The interactions between nanoparticles and the innate immune system from a nanotechnologist perspective
Victor Franco Puentes, Vall d’Hebron Research Institute (VHIR)
- 10:40-11:15** **BREAK**
- 11:15-12:45** **INFRASTRUCTURE OF PRECISION MEDICINE ASSOCIATED TO SCIENCE AND TECHNOLOGY (IMPACT)**
Chair: **José Becerra**
- 11:15-11:45 *Predictive Medicine Program: A large National Cohort in Spain as part of the Precision Medicine Initiative*
Beatriz Pérez Gómez, National Epidemiology Center-CIBERESP, Carlos III Health Institute
- 11:45-12:15 *Genomic Medicine Program*
Ángel Carracedo, University of Santiago de Compostela-CIBERER
- 12:15-12:45 *IMPACT Data: Development and challenges*
Alfonso Valencia, Barcelona Supercomputing Center
- 12:45-13:45** **PLENARY LECTURE III**
Chair: **José Luis Gómez Ribelles**
New bioengineering approaches for regenerative medicine, therapeutics and ultrasensitive biosensing
Molly Stevens, Imperial College London
- 13:45-15:00** **BREAK**
- 15:00-16:00** **NANBIOSIS**
Chair: **Jaume Veciana**
- 15:00-15:30 *PHOENIX – Pharmaceutical OITB for Enabling Nano-pharmaceutical Innovative Products*
Nazende Günday-Türeli, MyBiotech GmbH
- 15:30-16:00 *Open Innovation Test Beds as innovation boosters in medical devices: Safe-N-Medtech OITB*
Ángel del Pozo Pérez, Biokeraalty
- 16:00-17:00** **CIBER-BBN VALORIZATION PROJECTS**
Chair: **María Rosa Aguilar**
- 16:00-16:20 *PYODIAGPA, Pyocyanin as a new biomarker for diagnosis of Pseudomonas aeruginosa infections*
Lluïsa Vilaplana, Institute of Advanced Chemistry of Catalonia (IQAC-CSIC)
- 16:20-16:40 *TARGETED-PDT, ADME studies and preliminary safety pharmacology of a light regulated lead compound for target-specific photodynamic therapy of skin diseases*
Pau Gorostiza, Institute for Bioengineering of Catalonia (IBEC)
- 16:40-17:00 *CANDI-EYE, Towards integration and clinical validation of a probe for the detection of Candida albicans*
Elena Aznar, Polytechnic University of Valencia (UPV)
- 17:00-17:05** **CLOSING**
Ramón Martínez Máñez, CIBER-BBN Scientific Director