

NANOBIOSENSORES PARA APLICACIONES BIOMÉDICAS NANOBIOSENSORS FOR BIOMEDICAL APPLICATIONS

19 y 20 de diciembre de 2007
Hotel Campus Serhs UAB CAMPUS Bellaterra. (Barcelona)

19 de diciembre de 2007

SESION I

8:30 – 9:30 Registro

9:30 – 9:45 Inauguración **Salvador Alegret**, catedrático UAB y vicepresidente IEC
Ricardo Ibarra, director INA (Instituto Nanociencia Aragón)
Jordi Marquet, vicerector de projectes estratègics UAB
Jordi Pascual, director ICN (Institut Català Nanotecnologia)
Josep Samitier, vicerector de innovació y programas internacionales de la UB y coordinador de la plataforma nacional de nanobiomedicina

Moderador: Amilcar Labarta , Universitat de Barcelona (UB)

9.45 -10.10 **Magnetic biosensors and their application in lateral-flow tests**

Jose Maria de Teresa (ICMA-CSIC / INA, Zaragoza)

10.10-10.35 **Optical biosensors based on autotransducing proteins**

Javier Galban (INA,UZ, Zaragoza)

10.35-11.00 **Targeting biomarkers to improve diagnosis**

Marc Ramis (ENDOR Nanotech, Barcelona)

11.00-11.30 Coffee-break

Moderador: Arben Merkoçi, Centre d'Investigació en nanociència i nanotecnologia (CIN2 ICN-CSIC, UAB)

11.30-11.55 **Photonics nanobiosensors for real-time medical diagnostics**

Laura Lechuga (CIN2, CSIC-ICN, Madrid, Barcelona)

11.55-12.20 **Optical biosensing with nanostructured surfaces**

Mauricio Moreno (UB, Barcelona)

12.20-12.45 **Biofuel cells: futuristic power sources for medical implants**

Ioanis Katakis (URV, Tarragona)

12.45-13.10 **Optimizing gold nanoparticle synthesis for LSPR biosensors**

Luis M. Liz-Marzan (UV, Vigo)

13:10-13:35 **Composites, biocomposites and nanobiocomposites for electrochemical biosensors**

Maria Isabel Pividori (UAB, Barcelona)



SESION II

Moderador: José María de Teresa, Instituto de Ciencias Materiales de Aragón (ICMA-CSIC/ Instituto Nanociencia de Aragón (INA)

- 15.30-15.55 **Development of an in-vitro diagnostic nanotechnology platform based on olfactory receptors**
Josep Samitier (UB-IBEC, Barcelona)
- 15.55-16.20 **Nanofabrication for biosensors**
Irene Fernández (CNM, Barcelona)
- 16.20-16.45 **Sequential electrodeposition for nanopatterning of biosensors**
Ciara K. O' Sullivan (URV, Tarragona)
- 16.45-17.15 Coffee break

Moderador: Luis M. Liz - Marzan , Universidad de Vigo (UV)

- 17.15-17.40 **Carbon nanotubes, new amazing transducers for electrochemical sensors**
Xavier Rius (URV, Tarragona)
- 17.40-18.05 **Label-free biomolecular interactions analysis in a high-throughput format using self-assembled protein microarrays**
Manuel Fuentes, (Harvard Institute of Proteomics, USA)
- 18.05-18.30 **Immunosensing based on gold nanoparticles**
Alfredo de la Escosura (CIN2, ICN-CSIC, Barcelona)
- 18.30-18.55 **(Bio)functionalized carbon nanotubes: towards the development of ultrasensitive (bio)sensors**
Maria José Esplandiu (UAB, Barcelona)
- 18.55-19.20 **Electronic detection of biomolecules by carbon nanotube field effect transistors**
M. Teresa Martinez (ICB, CSIC, Zaragoza)

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SESION III

Moderador: Valeria Grazú , Instituto de Nanociencia de Aragón (INA)

- 9.00-9.25 **Nanobiosensors: revolution in the immunological techniques**
Africa Gonzalez (UV, Vigo)
- 9.25-9.50 **Nanomechanical biosensors: technology, instrumentation, concepts and applications**
Javier Tamayo (IMM-CNM, CSIC Madrid)
- 9.50-10.15 **Detection of intracellularly delivered nanoparticles by means of a Pro-rich cell-penetrating peptide**
Silvia Pujals (UB, Barcelona)
- 10.15-10.40 **Thin-film microelectrodes and nanoparticles for biosensing applications**
Cecilia Jimenez (CNM-IMB, CSIC Barcelona)
- 10.40-11.05 **Oriented immobilization of proteins and antibodies onto inert magnetic nanoparticles: Trace detection more selective, faster, and simple.**
Jose Manuel Guisan Seijas (ICP, CSIC, Madrid)
- 11.05-11.30 Coffe break

Moderador: Pilar Marco , Centro Superior de Investigaciones Científicas(CSIC, Barcelona)

- 11.30-11.55 **Micro systems for nanoparticle based biosystems**
Julian Alonso (UAB, Barcelona)
- 11.55-12.20 **Self-assembled monolayers of aromatic dithiolated scaffolds on gold. Application to cancer maker detection**
Alex Frago (URV, Tarragona)
- 12.20-12.45 **Intermatrix synthesis of polymer-stabilized metal nanoparticles for sensor and biosensor applications**
Dimitri Muraviev (UAB, Barcelona)
- 12.45-13.10 **DNA sensors based on nanoparticles**
Maria Teresa Castañeda (UAB, CIN2, Bellaterra)
- 13.10-13.35 **Application of CNT/polisulfone soft composite-based biosensors for the detection of human chorionic gonadotropin (β -HCG)**
Esteve Fàbregas (UAB, Barcelona)

SESION IV

Moderador: Victor Puntès, Institut Català de Nanotecnologia (CIN2, ICN-CSIC, ICREA, Barcelona)

- 15.30-15.55 **Nanobioanalytical platforms for the detection of bioactive substances**
Maria-Pilar Marco (CSIC, Barcelona)
- 15.55-16.20 **Si compatible microinductive devices for low cost high sensitivity biosensors**
Alejandro Pérez-Rodríguez (UB, Barcelona)

16.20-16.45 Coffe break

Moderador: Julián Alonso, Universitat Autònoma de Barcelona (UAB Barcelona)

- 16.45-17.10 **Use of DNA derivatives in nanosciences**
Ramon Eritja (CSIC, Barcelona)
- 17.10-17.35 **Carbon nanotubes based biosensors systems**
Briza Pérez (UAB, ICN, Barcelona)
- 17.35-18.00 **Micro-nano-biosystems: from the research to the product**
Jordi Aguiló (CNM-IMB, CSIC Barcelona)
- 18.00-18.30 Conclusiones
Ricardo Ibarra, Instituto de Nanociencia de Aragón (INA)
Jordi Pascual, Institut Català de Nanotecnologia (ICN)
Arben Merkoçi , Institut Catala de Nanotecnologia (ICN)