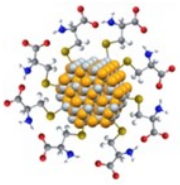
International Congress on Analytical Nanoscience and Nanotechnology
Santiago de Compostela, Spain
3 - 6 September 2024



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PROGRAMME XI NyNA 2024 (3-6 SEPTEMBER 2024)

TUESDAY, SEPTEMBER 3	**SHORT COURSE**
09:00 – 13:30 h	REGISTRATION SHORT COURSE AND XI NyNA 2024
09:45 – 10:00 h	SHORT COURSE OPENING
10:00 – 10:45 h	SC1. Analytical nanoscience and nanotechnology: general view, trends and present challenges Ángel Ríos, University of Castilla-La Mancha, Ciudad Real
10:45 – 11:30 h	SC2. Engineered nanomaterials: Reference methods, reference materials and documentary standards in support of current regulations Heidi Goenaga-Infante, D. Bartczak LGC National Measurement Laboratory, Teddington
11:30 – 12:00 h	COFFEE BREAK
12:00 – 12:45 h	SC3. Molecular recognition in optical sensors Elena Benito Peña, Complutense University of Madrid
12:45 – 13:30 h	SC4. Nanomaterials: key components in the improvements of electrochemical bio-sensing devices Mónica Revenga Parra, Universidad Autónoma de Madrid
13:30 – 15:30 h	LUNCH

XI NyNA 2024

	TUESDAY, SEPTEMBER 3
15:00 – 15:30 h	REGISTRATION
15:30 – 16:00 h	OPENING CEREMONY
16:00 – 16:45 h	OPENING PLENARY LECTURE PL1. Nanoplasmonic sensors integrated in 3D printed tumor models Luis Liz Marzán, CIC biomaGUNE, Universidade de Vigo (Spain) Chair: Dr. Pilar Bermejo-Barrera
	SESSION 1: Detection, characterization, and quantification of nanomaterials
16:45 – 17:30 h	PLENARY LECTURE PL2. Key analytical issues in the development of dispersion protocols and in the assessment of intestinal fate, uptake and crossing of food-relevant nanomaterials Francesco Cubadda, Istitute Superiore di Sanità, Rome (Italy) Chair: Dr. José Manuel Costa
17:30 – 18:00 h	COFFEE BREAK
18:00 – 18:15 h	O1. Assessment of the intestinal permeability of TiO_2 and SiO_2 (nano)particles from confectionaries using Caco-2 cells Transwell assays and spICP-MS Elena Espada-Bernabé, G. Moreno-Martín, B. Gómez-Gómez, Y. Madrid Complutense University of Madrid
18:15 – 18:30 h	O2. Shining light on nanoparticle antimicrobial activity assessment: A luminescence-based approach Joana Galhano, M.P. Duarte, J.L. Capelo-Martínez, C. Lodeiro, E. Oliveira University NOVA of Lisbon
18:30 – 18:45 h	O3. Unveiling the protein corona of different nanocarriers through asymmetrical flow field-flow field fractionation (AF4) Jorge Ruz, P. Rial, P. Laphus, L. Sanjurjo, M.J. Alonso, Universidade de Santiago de Compostela
18:45 – 19:00 h	O4. Food-grade quillaja saponin-polysorbate carrier for nanoencapsulation of vitamin D3: design and comparison about stability and controlled release regarding other nanoceutical approaches Natalia Villamayor, M.J. Villaseñor, A. Ríos University of Castilla-La Mancha
20:00 h	WELCOME RECEPTION

	WEDNESDAY, SEPTEMBER 4
09:00 – 09:45 h	PLENARY LECTURE PL3. Fate and effects of functional nanoparticles in biological matrices and biointerfaces Yuri Antonio Díaz, Universitá di Pavia (Italy) Chair: Dr. Ángel Ríos
	SESSION 2: Nano(bio)sensors
09:45 – 10:30 h	PLENARY LECTURE PL4. Microfluidics to enhance the use of nanomaterials as chemical and biological sensors Lourdes Basabe, F. Benito University of the Basque Country UPV/EHU, Vitoria-Gasteiz (Spain) Chair: Dr. Susana Campuzano
10:30 – 10:45 h	O5. New proposals in aqueous analysis based on the use of luminescent nanoclusters in microfluidic systems Ángela Écija Arenas, J. Palma Roldán, J.M. Fernández Romero Universidad de Córdoba
10:45 – 11:00 h	O6. Multiplex determination of glycan profiles on urinary prostate-specific antigen by Surface-Enhanced Raman Scattering Laura Armero Hernández, J. Plou, P.S. Valera, S. Serna CIC biomaGUNE, Donostia-San Sebastián
11:00 – 11:15 h	O7. Bidimensional nanomaterials and DNA nanostructures for nanobioconjugates preparation. Application to virus detection Tania García Mendiola, E. Enebral-Romero, D. García-Fernández, L. Gutiérrez-Gálvez, M. Luna, I. Torres, F. Zamora, E. Lorenzo Abad Universidad Autónoma de Madrid
11:15 – 11:45 h	COFFEE BREAK (POSTER SESSION)
11:45 – 12:30 h	PLENARY LECTURE PL5. Nanotechnology-based sensors and materials for water contaminants monitoring Begoña Espiña, INL-International Iberian Nanotechnology Laboratory, Braga (Portugal) Chair: Dr. Pablo Taboada
12:30 – 12:45 h	O8. Development of a nanometric molecular gates-capped nanoporous anodic alumina biosensor for fast and accurate detection of nosocomial infections in clinical samples Andrea Torres-Mesado, I. Caballos, M. Ángeles Tormo Mas, E. Climent, R. Martínez Máñez, E. Aznar Universitat Politècnica de València, Instituto de Investigación Sanitaria La Fe de Valencia

12:45 – 13:00 h	O9. Opening new roadmaps in cancer prognosis: interrogating miRNA-methylome and lesser-known methylations by electrochemical biodevices Eloy Povedano, V. Ruiz-Valdepeñas, R. Sebuyoya, R.M. Torrente-Rodríguez, M. Garranzo-Asensio, A. Montero-Calle, J.M. Pingarrón, R. Barderas, M. Bartosik, S. Campuzano University Complutense of Madrid
13:00 – 13:15 h	O10. (Bio)functionalized 2D germanane heterostructures as highly sensitive (bio)sensing systems Jose Muñoz, Universitat Autònoma de Barcelona (UAB)
13:15 – 13:30 h	O11. Topologically-fabricated nanostructures for Surface-Enhanced Raman Spectroscopy D.F. Odetade University of Birmingham
13:30 – 16:00 h	LUNCH BREAK
	SESSION 3: Nano(bio)sensors (cont.)
16:00 – 16:45 h	PLENARY LECTURE PL6. Tailored microfabrication of 3D-printing electrochemical microfluidics for (bio)sensing applications Miriam Chávez, Universidad de Alcalá, Alcalá de Henares (Spain) Chair: Dr. Mónica Revenga
16:45 – 17:00 h	O12. Enhancing electrochemiluminescence immunoassay through orthogonally functionalized graphene oxide Mónica Paz-Insua, C. Wetzl, C. Ignazio, J. Mosquera, M. Prato, G. Valenti, A. Criado Universidade da Coruña
17:00 – 17:15 h	O13. Design and analytical characterization of a copper nanoMOF paper-based sensor for the non-invasive detection of biogenic amines in food Candela Melendreras, E. Lastra Bengochea, F.J. García Alonso, I. Ortiz-Gómez, A. Soldado, J.M. Costa Fernández University of Oviedo
17:15 – 17:30 h	O14. Design and manufacturing of a disposable electrochemical paper-based analytical device for the determination of dopamine and serotonin neurotransmitters in clinical samples Marta Pacheco, M.Chávez, S. Dortez, A. Escarpa Complutense University of Madrid
17:30 – 18:00 h	COFFEE BREAK (POSTER SESSION)

18:00 – 18:45 h	PLENARY LECTURE PL7. Paper-based (bio)sensors nanomodified for sustainable and smart analyses Fabiana Arduini, University of Rome (Italy) Chair: Dr. Lourdes Basabé
18:45 – 19:00 h	O15. Innovative inkjet-printed SERS sensor for biorelevant VOCs mixtures quantification Daniel García-Lojo Universidade de Vigo
19:00 – 19:15 h	O16. Gated materials for diagnostics and their potential biomedical applications Ramón Martínez Máñez Universitat Politècnica de València
19:15 – 19:30 h	O17. Synthesis of core-shell fluorescent magnetic particles and their implementation into a fiber-optics device for diacetyl detection Roccopio Malaspina, A. Leon-Cecilla, M.D. Fernández-Ramos, V. Martos-Núnez, M.T. López-López, A.L. Medina-Castillo Universidad de Granada
19:30 – 19:45 h	O18. Printed circuit boards electrodes for electrochemical-Surface Enhanced Raman Spectroscopy M. Pérez-Estébanez, L. Romay, P. Núñez-Marinero, M. Hiudobro, A. Heras, J. del Campo, Álvaro Colina Universidad de Burgos

	THURSDAY, SEPTEMBER 5
	SESSION 4: Analytical nanometrology / Detection, characterization, and quantification of nanomaterials
09:00 – 09:45 h	PLENARY LECTURE PL8. Novel strategies for the accurate determination of particle number concentration: From nanomaterials to microplastics Heidi Goenaga-Infante, D. Ojeda, A. Sikora, D. Bartczak LGC National Measurement Laboratory, Teddington (United Kingdom) Chair: Dr. Antonio Moreda-Piñeiro
09:45 – 10:00 h	O19. Nanoparticle characterization in biological matrices by Single Particle ICP-MS Meritxell Cabré, G. Fernández, E. González, J. Abellá, A. Verdaguer Universitat Ramon Llull, Perkin Elmer Scientific Spain
10:00 – 10:15 h	O20. Metrology platform for multi-elemental quantification of doped-carbon dots in individual cells using ICP-TOF-MS Guillermo Redondo-Fernández, K. Billimoria, D. Ojeda, A. Soldado, J.M. Costa-Fernández, H. Goenaga-Infante University of Oviedo
10:15 – 10:30 h	O21. Towards the harmonization in single particle ICP-MS metrology Francisco Laborda, E. Bolea, I. Abad University of Zaragoza
10:30 – 10:45 h	O22. Development of analytical methodology for extraction, preconcentration, and detection of small micro-nanoplastics in water environmental samples J. Terán-Baamonde, A. Castanheira, P. Taladriz-Blanco, S. Muniategui-Lorenzo, B. Espiña, L. Rodríguez-Lorenzo Universidade da Coruña
10:45 – 11:00 h	O23. Determination of metal oxide and metallic nanoparticles in air samples using mixed cellulose esters filters and spICP-MS Carlos Gómez-Pertusa, D. Torregrosa, M. C. García-Poyo, G. Grindaly, R. Pedraza, A. Yáñez, L. Gras Universidad de Alicante
11:00 – 11:15 h	O24. Health assessment of CuONPs in seafood: enzymatic ultrasound-assisted hydrolysis optimised by response surface design and further monitorization by sp-ICP-MS Manuel Bartolomé, M.J. Villaseñor, A. Ríos University of Castilla-La Mancha
11:15 – 11:45 h	COFFEE BREAK (POSTER SESSION)

11:45 – 12:30 h	PLENARY LECTURE PL9. Application of Single Particle ICP-MS for the determination of inorganic nanoparticles in food additives and food Katrin Löschner, Technical University of Denmark Chair: Dr. Francisco Laborda
12:30 – 12:45 h	O25. Determination of silver nanoparticles in exposed human red blood cells by single cell–inductively coupled plasma-mass spectrometry Ana Justo-Vega, P. Bermejo-Barrera, R. Domínguez-González, A. Moreda-Piñeiro, J. Jiménez-Lamana University of Santiago de Compostela
12:45 – 13:00 h	O26. Optimized spICP-MS methodology for characterizing biogenic selenium nanoparticles produced by *Haloferax mediterranei* Nuria Guijarro-Ramírez, G. Grindlay, L. Gras, C. Pire, J. Mora, R.M. Martínez-Espinosa University of Alicante
13:00 – 13:15 h	O27. Magnetic micromotors for the on-the-fly SARS-COV-2 detection Alberto Rodríguez, B. Jurado-Sánchez, A. Escarpa Universidad de Alcalá
13:15 – 13:30 h	O28. Catalytic micromotors for motion based detection of cystine as post-morten interval Steven Linian, B. Jurado, A. Escarpa Universidad de Alcalá
13:30 – 13:45 h	O29. Development of a fiber optic sensor for simple, fast, and eco-friendly real-time measurement of total and volatile acidity in beverages. Melany López-Aveiga, M.D. Fernández-Ramos, V. Martos-Núñez, A. González-Casado, A. Medina-Castillo Universidad de Granada
13:45 – 16:00 h	LUNCH BREAK
	SESSION 5: Applied analytical strategies involving nanomaterials/Nanomaterials for sample preparation
16:00 – 16:45 h	PLENARY LECTURE PL10. From Bench to bedside: metallic nanoparticles empower proteomics, antimicrobial strategies, catalysis and drug delivery systems Carlos Lodeiro, NOVA University Lisbon (Portugal) Chair: Dr. Katrin Löschner
16:45 – 17:00 h	O30. Covalent organic frameworks as efficient adsorbents for the detection of emerging contaminants in run-off waters Carlos Gonçalves, M. Quarato, M. Chaves de Sousa, J. Araújo, A. Álvarez, L. Rodríguez-Lorenzo, L.M. Salonen, B. Espiña International Iberian Nanotechnology Laboratory, Braga

17:00 – 17:15 h	O31. Detection and quantification of nilotinib in complex clinical samples by capillary electrophoresis using silver nanoparticles María Ángeles García-Trejo, A. Ríos, G. Castañeda University of Castilla-La Mancha
17:15 – 17:30 h	O32. Use of bimetallic nanoparticles as novel tags in lateral flow immunoassays for the detection of biomarkers David Valero-Calvo, J.F. Bergua-Canudo, D. Bengoa-Álvarez, F.J. García-Alonso, A. Escosura-Muñiz University of Oviedo
17:30 – 18:00 h	COFFEE BREAK (POSTER SESSION)
18:00 – 18:45 h	PLENARY LECTURE PL11. Upconversion nanoparticles - bright reporters for bioanalytical applications Thomas Hirsch, University of Regensburg (Germany) Chair: Dr. Carlos Lodeiro
18:45 – 19:00 h	O33. Continuous 3D-based electrochemical monitoring of bacteria growth inhibition using biotemplated BiOCl micromotors Carmen Cuntín-Abal, M. Chávez, B. Jurado-Sánchez, A. Escarpa Universidad de Alcalá
19:00 – 19:15 h	O34. Identification of marine species genomic DNA using gold nanoparticles and signal amplification Patricia Alcázar, M.L. Fernández, J.M. Costa, Y.J. Borrell, R. Coya, M.T. Fernández University of Oviedo
19:15 – 19:30 h	O35. Analytical platform for the determination of miRNA sequences as biomarkers for the diagnosis and early detection of different diseases based on SP-ICP-MS Sara González-Morales, C. Lopez-Portugues, M. Fernández-Sanjurjo, E. Iglesias-Gutiérrez, D. Clases, M. Corte-Rodríguez, M. Montes-Bayón University of Oviedo
21:00 h	CONFERENCE DINNER (PAZO DE SAN LORENZO)

	FRIDAY, SEPTEMBER 6
	SESSION 6: Other nanotechnological applications and miniaturized nanosystems
09:00 – 09:45 h	PLENARY LECTURE PL12. Magnetic micro- and nanorobots Salvador Pané, Multi-Scale Robotics Lab, ETH Zürich (Switzerland) Chair: Dr. Alberto Escarpa
09:45 – 10:00 h	O36. Iridium Janus nanomotor for smart drug delivery D. Vilela, Beatriz Mayol, S. Pradana-López, A. García-Fernández, A. Sánchez, A. Villalonga, F. Sancenón, P. Martínez-Ruiz, R. Martínez-Máñez, R. Villalonga Complutense University of Madrid
10:00 – 10:15 h	O37. Exploiting nanoparticles for enhanced drug delivery strategies against antibiotic resistance Elisabete Oliveira, C. Lodeiro, J. Galhano, M.P. Duarte, J.L. Capelo Universidade NOVA de Lisboa
10:15 – 10:30 h	O38. Measuring temperature at the nanoscale Carlos Renero-Lecuna, C. García-Astrain, A. Herrero, J. Langer, D. Jiménez de Aberasturi, M. Henriksen-Lacey, L. M. Liz-Marzán University of Vigo
10:30 – 10:45 h	O39. Larval mortality of *Aedes aegypti* using zinc oxide and manganese oxide nanoparticles synthesized by green chemistry Gina Zavaleta-Espejo, E. Carranza-Segura, S. Avila-Concepción, S. Jáuregui-Rosas, F. Samanamud-Moreno, J. Saldaña-Jiménez, E. Valle-Rivera, J. Huaman-Quispe Universidad Nacional de Trujillo
10:45 – 11:00 h	O40. Modified chitosan-based nanocapsules for the controlled release of selenium in soil Alejandro Fuentes García, M.J. Sánchez-Martín Universitat Autònoma de Barcelona
11:00 – 11:30 h	COFFEE BREAK (POSTER SESSION)
	SESSION 6: Other nanotechnological applications and miniaturized nanosystems (cont.) Chair: Dr. Yolanda Madrid
11:30 – 11:45 h	O41. Microfluidic devices and the biological evaluation of therapeutic nanosystems: a look into atherosclerosis Alejandro Ogando, O. Beltrán, J. Fernández, P. Taboada Universidade de Santiago de Compostela

11:45 – 12:00 h	O42. Heterostructures of plasmonic metal nanoparticles/LDH for p-nitrophenol degradation Ridouan Benhiti, S. Nouaa, M. Chiban, G. Carja Ibn Zohr University, Agadir
12:00 – 12:15 h	O43. Design of a solution-based system using RNAzyme technology for detection and quantification of miRNA as stress response indicator F.N Nazar, X. Arciniega, S. Pellegrini, E. Azuaje-Hualde, L. Basabe-Desmonts, Fernando Benito-López University of the Basque Country UPV/EHU
12:15 – 12:30 h	O44. Smart mesoporous systems for controlled drug release induced by H_2O_2 Marta González-Jiménez, T. Moreno Núñez, S. Salido, B. Mayol, E. García-Díez, P. Martínez-Ruiz, D. Vilela, R. Villalonga, N. Martínez-Quiles Complutense University of Madrid
12:30 – 13:15 h	CLOSING PLENARY LECTURE PL13. Advancing water pollution remediation through magnetic nanostructured biomaterials José Rivas, Materials Institute-iMATUS, Universidade de Santiago de Compostela (Spain) Chair: Dr. Josefa Fernández
13:15 – 14:00 h	CLOSING CEREMONY

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