

NALS

nanomaterials applied to life sciences

VIGGO
from march 11 to 13
2026

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Wednesday, March 11th, 2026

08:30 – 09:00	REGISTRATION	(Hall)
09:00 – 09:30	Open Ceremony	(Auditorium)
09:30 – 10:10	María Blanco Prieto	Plenary: Nanomedicine Approaches to Enhance Therapies in Pediatric Oncology (Auditorium) Chairperson: Carmen Blanco
10:10 – 10:25	JOVER - LABTECH	Advanced characterization for the life science sector. STEP and SPLS technologies
10:25 – 10:40	Gustavo Bodelón	Light-Responsive Gold Nanoparticle-Bacterial Biohybrids for Targeted Theranostics
10:40 – 10:55	Paola Sánchez Moreno	Biomimetic Coating Technologies: Cell Membranes as Stealth Interfaces for Nanoparticles in Glioblastoma Therapy
10:55 – 11:10	Domingo F. Barber	Enhancing magnetic hyperthermia at the plasma membrane
11:10 – 11:25	Prajakta Vilas Tambe	Cell membrane-coated magnetic nanoparticles to silence drug transporters in metastatic breast cancer cells
11:25 – 11:55		Coffee break
	Parallel Session: Organic & Biomimetic Carriers (Auditorium) Chairperson: Lorena Díezguez Moure	Parallel Session: Theranostics & Imaging Materials (Room 1) Chairperson: Javier Alonso Masa
11:55 – 12:10	Anna Roig Serra	Beyond intravenous administration of therapeutic nanocarriers
12:10 – 12:25	Marina Ayala Lerma	Stealth nanoparticles and surfaces by protein-biomimicking coatings
12:25 – 12:40	Ana Monteiro Amorim	Biomimetic lipid nanoplatfoms for glioblastoma
12:40 – 12:55	Oscar Abelenda Caamaño	Membrane-Fusion Induced Dedifferentiation: Biomimetic Adipose-Shell Nanoparticles Drive Non-Thermogenic Adipocyte Slimming
12:55 – 13:10	Carla Álvarez Leirós	Multimodular β -Cyclodextrin Silicasomes for Design of pH-Responsive Nanocarriers for Oral Aroylated Phenylenediamines Administration
13:10 – 13:25	Teresa Moreno Núñez	Aptamer-controlled Janus nanomachine for targeted Drug Delivery via supramolecular encapsulation
13:25 – 15:00	Lunch (Hall)	
		Fernando Herranz Advancing radiolabelling through nanoparticle design 89Zr-Labeled SPIONs@Polydopamine-Doped MCM-41 as a Trimodal PET/MRI/Fluorescence Nanoprobe
		Manuel A. González Hybrid nanomaterials for optical nanoscale heating and temperature sensing in cells
		Mikhail Zyuzin Amorphous Calcium Carbonate Nanoparticles as a Theranostic Platform for Breast Cancer
		Claudia Miranda Extracellular temperature measurements
		Luis Martínez Ceseña Biominerized nanoparticles for theranostic applications in cancer nanomedicine
		Tamasi Zita

Wednesday, March 11th, 2026

15:00 – 15:40 **Jacky Goetz**

Plenary: Tracking metastasis to better treat them (*Auditorium*)

Chairperson: Laura Rodríguez Lorenzo

Parallel Session: Smart, Stimuli-responsive (*Auditorium*)

Chairperson: Laura Rodríguez Lorenzo

15:40 – 15:55	Alberto López Ortega	4D printed magnetically activated drug delivery nanosystems
15:55 – 16:10	María Rosaría de Simone	MagPiezo: A Magnetogenetic Platform for Remote and Targeted Activation of Endogenous Piezo1 Channels
16:10 – 16:25	Marta González Jiménez	Self Propelled Enzymatic Nanomotors for Controlled Drug Delivery
16:25 – 16:40	Francisco Terán	Monitoring Protein Conformational Changes Via Nanoparticle Dynamical Magnetization
16:40 – 16:55	Jorge A. López Solaiman	Monolayers of Janus Nanoparticles for glial regeneration through magnetostrictive effect mediated by Terfenol-D
16:55 – 17:10	Guillermo Iglesias Salto	Stimuli-responsive Magnetic activated carbon platforms for methotrexate release

Parallel Session: Antimicrobial & Anti-Resistance (*Room 1*)

Chairperson: Gustavo Bodelón

Eva Romaní Cubells	Dendritic Gallium Zeolites as Antibacterial Platforms for Combating Antimicrobial Resistance Nanoparticles for Targeted Antimicrobial Photodynamic Therapy Against Drug-Resistant Pathogens
Virginia Martínez	Overcoming the challenges of agriculture: new biofunctionalized hybrid nanomaterials for crop protection
Enrique Niza	Mucoadhesive HTCC Nanoparticles in Eye Drop Formulations: In Vitro Cytotoxicity and Antimicrobial Effectiveness
Nekane Martín Mendía	Electrospun hybrid PLA/Chitosan membranes incorporating UiO-66-NH ₂ MOFs and thymol for antioxidant, antibacterial films
Antía Álvarez Pazó	Magnetic Control and Separation of Extracellular Vesicles for Advanced Biosensing Platforms

17:10 – 18:30 Poster Session & Coffee Break (*Hall*)

Thursday, March 12th, 2026

9:00 – 9:40

Luis M. Liz Marzán

Plenary: Plasmonic Hybrid Materials to Monitor Tumor Activity (*Auditorium*)

Chairperson: Anna Roig

9:40 – 9:55	Jorge Pérez Juste	From Multiplex to Digital: Pushing Lateral-Flow Detection with SERS Nanotags
9:55 – 10:10	Laura R. Lorenzo	Fabrication of organic-plasmonic hybrid composite as an excellent SERS substrate for antibiotic monitoring
10:10 – 10:25	Puerto Morales	Scalable synthesis of metallic nanoparticles via continuous-flow microwave-assisted polyol process
10:25 – 10:40	Pilar Marín Palacios	Wireless Monitoring of Hydrogel Scaffolds via Combined Giant Magnetoimpedance and Magnetoelastic Resonance in Amorphous Microwires
10:40 – 10:55	Elena Pazos Chantero	Stimuli-responsive coiled coil-based nanostructures

10:55-11:25 Coffee break

11:25 – 12:05

Teresa Pellegrino

Plenary: Magnetic nanoparticles: from the synthesis to cell tracking and cancer treatment applications (*Auditorium*)

Chairperson: Alberto López Ortega

Parallel Session: Hyperthermia & Field Control (*Auditorium*)

Chairperson: Alberto López Ortega

12:05 – 12:20	Patricia de la Presa	Standardization of photothermal measurements in iron oxide nanoparticles: toward a common protocol
12:20 – 12:35	Elizabeth Martín	What happens inside the nanoparticles?
12:35 – 12:50	Carlos Moya	Light-responsive magnetic nanorods: design, stabilization, and local photothermal ablation experiments
12:50 – 13:05	Monica Dhanjani	Iron oxide-gold nanoaggregates for magnetic and light-induced hyperthermia
13:05 – 13:20	Irune Fernández	Single particle tracking protocols and statistical analysis for the dynamic characterisation of magnetic nanostructures
13:20 – 13:35	Javier Roselló	Design of microfluidic systems by 3d printing

Parallel Session: Cancer Nanomed & Immunoeng (*Room 1*)

Chairperson: Claudia Nunes Pinho

Cristina Sánchez	Single Point - Photodynamic therapy: From making the tumor structure more permeable to inducing tumor cell death from within
Alicia Arroyo	Engineering Protocell Nanoparticles to Convert Solid Tumors into Targets for Universal CAR-T Cell Therapy
Ana M. Pérez	Mesoporous silica nanoparticles loaded with Ovalbumin and Rapamycin as a co-delivery platform for allergen specific immunotherapy
Lorena Diéguez	Microfluidic advanced models to study cancer metastasis and develop new nanotherapies
Mafalda Bessa	Exploring formulation-dependent Immunomodulatory effects of lipid nanoparticles in THP-1 cells
Solange Mailer	Senolytic nanoplatform to target senescence melanoma cells

13:35 – 15:00 Lunch (*Hall*)

Thursday, March 12th, 2026

15:00 – 15:40 **María Jesús Vicent** **Plenary: Polypeptide-Based Therapeutics: Enhancing Tropism and Overcoming Biological Barriers (Auditorium)** Chairperson: Maria del Puerto Morales

Parallel Session: NanoBio Interfaces & Tissue Eng (Auditorium)

Chairperson: Maria del Puerto Morales

15:40 – 15:55	Emilio Castro Otero	Tailoring Morphological and Conductive Properties of AuNP-Chitosan Bionanocomposites
15:55 – 16:10	Claúdia Nunes Pinho	Breaking milk components into nanocarriers
16:10 – 16:25	Paula Ortega López	Therapeutic potential of polyphenol-functionalized nanoparticles
16:25 – 16:40	Alma G. España	In-Situ Growth of Gold Nanoparticles on Collagen Scaffolds for the Study of Fibrosis in Organoids
16:40 – 16:55	Iñaki López Díaz	Extracellular vesicle biomarkers in osteoarthritis

Parallel Session: Plasmonics, SERS & Optics (Room 1)

Chairperson: Fernando Herranz

Lara G. Cabaleiro	Plasmonic Metal-Phenolic Network Nanoprobes for Multiplex Dual Mode Immunophenotyping
Miguel Spuch Calvar	When PVP Fails: Synthetic Reproducibility Challenges in Gold Nanostar Fabrication
Alberto Sánchez	Electrochemical LFIA based on silver deposition applied to the determination of extracellular vesicles
Clara Saweres	Towards sustainable diagnostic platforms: starch-based lateral flow immunoassays
Artai Toba	Development of a droplet-based bacteria biosensor based on SERS spectroscopy

16:55 – 18:00 Poster Session & Coffee Break (Hall)

Thursday, March 12th, 2026

20:30 – 22:30 Gala Dinner (Restaurante ZAKA, Rua de García Barbón 62-64. Vigo)

POSTERS			
DAY	Nº	Name	Title
WEDNESDAY 11th MARCH	3	Lorena García Hevia	Oxidized Multi-Walled Carbon Nanotubes as VEGFR Modulators for Suppressing Melanoma Metastasis
	7	Mónica López Fanarraga	Nanoscale Engineering of Resilient Silica Matrices: A Sustainable Paradigm for Global Genetic Heritage Preservation and Precision Delivery
	19	Riccardo Guadagnoli	Circular dichroism biosensing in hydrogels containing chiral gold nanoparticles
	55	Johan Farfan Benito	Improving Cellular Internalization of DNA Origami via Lipid Nanoparticle Encapsulation
	57	Nerea García de Iturrospe Cahue	Comparative Photothermal Performance of Gold and Magnetite Nanostructures under Near-Infrared Laser Irradiation for Cancer Therapy Applications
	59	Xavier Manuel de Rada Piñeiro	Development of Biohybrid Living Transducers for SERS-Based Detection of Elusive Chemical Targets
	61	Jose Alejandro Ruiz Torres	Light-Driven Heat and Transfer Bi2S3 Semiconductor Nanoparticles
	75	Ana Pereira Peredo	Hybrid magnetic nanoparticles for the targeted delivery of CDK4/6 inhibitors in Melanoma Therapy
	81	Laura Sánchez Martínez	CO ₂ -Induced Degradation of ZIF-8 as a Route to Tunable Porosity
	82	Iago González Prada	3D electrospun scaffolds loaded with quercetin and carboxymethyl β -cyclodextrin for wound healing
	83	Irene García Fernández	Using an oil-water emulsion to remove microplastics from water
	84	Irene García Fernández	Designing Bio Based Emulsions for Controlled Release of Natural Antimicrobials
	85	María Mondejar Lopez	Multifunctional biofunctionalized hybrid nanoantifungals with novel active coating agents based on cinnamaldehyde- and β -cyclocitral-modified polydopamine
	88	Jorge Ara Escario	Iron Oxide Nanoparticles in Environmental Remediation: Advances in Fenton and Photo-Fenton Catalysis
	97	Yurena Luengo Morato	Establishing a 3D bioprinted glioblastoma model as an in vitro platform for preclinical research
112	Ana Sousa Hervés	Charge-Tunable Poly(HEA)-Based Nanogels: Enhanced Biocompatibility and Cellular Uptake in Pancreatic Cancer Cells	
113	Rui Yuan Cai	Micromotors as Vehicle of smart Drug Delivery Systems	
115	Naiara Doldán Mata	mRNA nanocarriers for In vivo T cell engineering	
123	Candela Monzón Criado	Microfluidic Synthesis of Silica Nanoparticles	
THURSDAY 12th MARCH	15	Manuel Horcajo Fernández	Design of Hybrid Magnetite-Silica Nanoparticles for Dual Magnetic and Photothermal Hyperthermia
	23	Susana García Sánchez	Phage bioprospection for the treatment of Mycobacterium infections: can nano encapsulation break the paradox of bacterial resistance vs host immunity?
	30	Karam Nader Pisonero	Magneto-Optical Device for Photothermal and Magnetothermal Characterization of Magnetite Nanoparticles
	49	Salette H. Reis	Unlocking the Therapeutic and Cosmetic Potential of Skin-Mimetic Nanoplatforms
	51	Elena Peral Catalán	Targeted SN38 nanostructures as drug delivery systems for metastatic colorectal cancer
	53	Ainara Marigomez Cajaraville	Optimized Synthesis of Cobalt Ferrite Nanoparticles from Mono- and Bimetallic Oleate Precursors: Structural and Magnetic Control
	69	Alaine Urrutia Eizagirre	Studying the suitability of Magnetospirillum gryphiswaldense for magnetic hyperthermia
	71	Eva María Rivero Buceta	Covalent Organic Frameworks (COFs) as Novel Nanocarriers for Safer Gemcitabine Delivery in Bladder Cancer
	73	Marcos Muñoz Arias	Magnetothermal evaluation of hybrid SPAN [®] 80/hyaluronic acid and magnetite nanoparticles micelles
	74	Diego Montero Flor	Time-Dependent Antimicrobial Stability of Vanillin Encapsulated in Starch-Based Nanovesicles
	76	María Aguilera Llaveró	Simple Fluorescent Labeling of DNA Origami for Intracellular Tracking
	79	Mar Cabello Huerta	Engineering Fusogenic Cell Membrane-Derived Nanoparticles for Macrophage-Targeted CRISPR-Cas9 Delivery
	102	Shayamita Ghosh	Remodelling of the Tumor Extracellular Matrix via Iron Oxide Nanoparticle Driven Hyperthermia for Metastasis Melanoma
	91	Pelayo García Acevedo	Nanoscale Modulation of Dipolar Interactions and Surface Chemistry in Iron Oxide Nanoparticles for MRI and Hyperthermia
	100	Nuria Genicio Bouza	Formulation and characterization of Hyaluronic Acid/k-Carrageenan Hydrogels Incorporating Crocin for Chronic Wound Therapy
107	Sara Rodríguez Da Silva	ZIF-8 nanocarriers for targeted siRNA delivery	
120	Cristian Rivilla Quijia	Exploiting ANTXR1 as a gateway for Next-Generation Nanotheranostics in Cancer	
121	Nicole M. Mayordomo	Targeted Silica Nanoparticles for Enhanced Drug Delivery in Glioblastoma	

9:00 – 9:40	Mariana Medina Sánchez	Plenary: Microrobots for Precision Women’s Healthcare (Auditorium) Chairperson: Sebastian Thompson
9:40 – 9:55	María Blanco Formoso	Spiropyran-based glutamate nanovalve for neuronal stimulation
9:55 – 10:10	Alexander Carneiro	Connexin 43–enriched extracellular vesicles
10:10 – 10:25	Javier Alonso Masa	Magnetic Anisotropy Landscape in Magnetosomes of Magnetotactic Bacteria and Its Relevance to Hyperthermia
10:25 – 10:40	Juan L. París	Protein G–grafted mesoporous silica nanoparticles as a serum pre-treatment system for in vitro drug allergy diagnosis.
10:40 – 10:55	Raluca Fratila	Intracellular delivery of cell-impermeant probes promoted by cell membrane localized magnetic hyperthermia
10:55 – 11:10	Sara Abalde Cela	Optofluidic SERS-enabled platforms for multiomic analysis in complex biological systems
11:10 – 11:40		Coffee break
	Parallel Session: Bioengineered Models (Auditorium) Chairperson: Mónica López Fanarraga	Parallel Session: Magnetic Materials (Room 1) Chairperson: Elizabeth Martin Jefrenovas
11:40 – 11:55	Alexandra Pereira Teixeira	Engineered Bacteria for Phenotypic Characterization of Cancer Cells
11:55 – 12:10	Laura Cervera Gabalda	Engineering Curved Supported Lipid Bilayers as Model Platforms
12:10 – 12:25	Ana I. Ferreira Barbosa	Sustainable nanoplatfoms for biomedical and cosmetic applications: the PROMISEANG valorisation of marine biowaste
12:25 – 12:40	Alejandro Ogando Cortés	mRNA loaded lipid/hybrid biomimetic nanoparticles: a lab-on-a-chip methodology
12:40 – 12:55	Guillermo Plaza Palomo	Multimodular β -Cyclodextrin Silicasomes for Orchestrated Stroma Remodeling and Dual-Drug Delivery in Neuroblastoma
12:55 – 13:10	Elena González Lozano	Evaluation of ferrite-based nanotherapeutics in an organotypic lung fibrosis model
13:10 – 14:00		Closing Ceremony (Auditorium)

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Organizing Committee NALS 2026

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