SAHMN 2026
Self-Assembled Hybrid Materials in Nanomedicine
From Non-Viral Vectors to Cancer Therapy and Neurostimulation

Wednesday, February 25, 2026		
8:30 – 10:00	Registration	
10:00 – 10:15	**Opening**	
Chair	Sergio Moya	
10:15 - 11:00	**Twan Lammers** *Plenary Lecture*	*Smart Strategies to Promote Cancer Nanomedicine Performance and Clinical Translation*
11:00 - 11:30	Coffee Break	
11:30 – 11:55	**Gabriela Romero** *Keynote Session*	*Amino-Acid–Based Block Copolymers as Artificial Viruses for Brain Gene Editing*
11:55 – 12:20	**Nicola Toschi** *Keynote Session*	*Foundation Models for Chemistry and Atoms: Toward AI-Guided Design of Self-Assembled Hybrid Nanomaterials*
12:20 – 12:45	**Alejandro Sosnik** *Keynote Session*	*Engineering Self-Assembled Systems for Precision Therapeutics*
12:45 - 14:00	Lunch at the conference venue	
Chair	Horacio Cabral	
14:00 – 14:45	**Horacio Cabral** *Plenary Lecture*	*Nanomedicine Strategies for Targeted Cancer Immunotherapy*
14:45 – 15:10	**Frederico Pittella** *Keynote Session*	*RNAi Therapy in Cancer: Strategies for the Development of siRNA Nanocarriers*
15:10 – 15:35	**Chie Kojima** *Keynote Session*	*Applications of Anionic-Terminal Phe-Modified Dendrimers to Drug Delivery into Lymph Nodes and their T Cells*
15:35 – 16:00	**Hans Bäumler** *Keynote Session*	*Functionalization of Hemoglobin Microparticles as Drug Carriers for Effective Cancer Cell Targeting*
16:00 – 16:30	Coffee Break	
16:30 – 16:55	**Diego Cattoni** *Keynote Session*	*Interfacing Living Medicines with Soft Matter: Biopolymer-Engineered Bacteria for Precision Cancer Therapy*
16:55 – 17:40	**Vincenzo Cerullo** *Plenary Lecture*	*PeptiCRAd: From Lab Discovery to the Clinic, a Highly Customizable Platform for Personalized Cancer Vaccine*
17:40 – 17:55	**Arthur Gaveau** *Oral contribution*	*The 3D-RCPG Project: A Strategic Opportunity for Quality Control of Membrane Receptors and the Future of Medicine*
17:55 – 18:30	**Flash Session** Dhiraj Mishra, Liqiu Ma, Livia do Nascimento Grossi, Francesca Milano, Miao Fu	
18:30 – 19:30	**Poster Session with Drinks Reception**	

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Thursday, February 26, 2026		
Chair	Radostina Georgieva	
9:00 – 9:45	**Aitziber Cortajarena** *Plenary Lecture*	*Engineering Protein-Based Hybrid Composites and Self-assembled Biomaterials for Advanced Nanomedicine and Bioelectronics*
9:45 – 10:10	**Ali Miserez** *Keynote Session*	*Phase-Separating Peptides as a Universal Platform for Intracellular Delivery of Macromolecular Therapeutics*
10:10 – 10:35	**Beatriz G. de la Torre** *Keynote Session*	*Self-Assembly of Cell-Penetrating Lipo-Peptides into Functional Nanostructures for Drug Delivery*
10:35 - 11:00	**Kitipong Assatarakul** *Keynote Session*	*Development of FOS- and Antioxidant-Rich Functional Durian Powder by Enzymatic Treatment and Encapsulation*
11:00 - 11:30	Coffee Break	
11:30 – 11:55	**Primana Punnakitikashem** *Keynote Session*	*Multifunctional Nanomedicine for Brain Metastases and Primary Brain Cancer: Blood–Brain Barrier Penetration and Macrophage Repolarization*
11:55 – 12:20	**Marco Monopoli** *Keynote Session*	*Understanding the Nanomaterial Interaction with Biomolecules, a Journey from Safety to Applications in Nanomedicine*
12:20 – 12.45	**Kaori Sugihara** *Keynote Session*	*Peptide cooperative effects towards the development of new antimicrobial agents*
12:45 - 14:45	Free time for Lunch on your own	
Chair	Sergio Moya	
14:45 – 15:30	**Raffaele Mezzenga** *Plenary Lecture*	*Amyloid Fibrils as Functional Ingredients for Human Nutrition and Nanomedicine*
15:30 – 15:55	**Luai Khoury** *Keynote Session*	*When Proteins Become Machines: Self-Assembled Hybrid Materials for Autonomous Therapeutic Systems*
15:55 – 16:10	**Pamina M. Winkler** *Oral contribution*	*Small Molecules, Big Impact: Quantifying the Influence of Amino Acids on Protein Interactions*
16:10 – 16:25	**Xiwen Chen** *Oral contribution*	*Engineering Hybrid Polymeric Gd2O3 Nanoparticles for Tumor-Targeted Neutron Capture Therapy*
16:25 – 16:40	**Pengwen Chen** *Oral contribution*	*Optoregulation of Pleiotropic Immune Signaling via Pinpoint mRNA Delivery for Tumor-Targeted Therapy*
16:40 – 16:55	**Camila Quinetti Paes Pittella** *Oral contribution*	*Poly-L-Lysine–Cholesterol Functionalization of Bacterial Nanocellulose Membrane Through Self-Assembly for Skin Tissue Regeneration*
16:55 – 17:30	Coffee Break	
17:30 – 17:55	**Chanchai Boonla** *Keynote Session*	*Designing and Testing Protein Nanocarrier Platform for Targeted Cancer Therapy*
17:55 – 18:20	**Akira Matsumoto** *Keynote Session*	*Crafting Molecular Precision: Designer Boronolectins in Polymer Bioengineering*
18:20 – 19:00	**Flash Session** Riho Fujikura, Shota Michida, Nanaka Takeuchi, Franziska Wasner, Eduardo Martinez	
19:00 – 20:30	**Free Time**	
20.30 – 22:30	Dinner at “El Vaskito”	

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Friday, February 27, 2026		
Chair	Horacio Cabral	
9:00 – 9:45	**Changyou Gao** *Plenary Lecture*	*Inflammation-modulating nanomaterials for tissue repair and regeneration*
9:45 – 10:10	**Guocheng Wang** *Keynote Session*	*Nanointerfacial Engineering on Biomaterial Surfaces and Their Biomedical Applications*
10:10 - 10:35	**Gustavo Abraham** *Keynote Session*	*Advances and Challenges in Electrospun Nanofibers for Therapeutic Agent Delivery*
10:35- 11:00	**Graciela Calabrese** *Keynote Session*	*Polyelectrolyte complex nanomaterials. From extracellular matrix to cancer stem cells*
11:00- 11:30	Coffee Break	
11:30 – 11:55	**Nicolas Muzzio** *Keynote Session*	*Engineering Polymer Interfaces to Guide Cell Behavior*
11:55 – 12:20	**Ning Gao** *Keynote Session*	*Metabolic Regulation of BMSCs by NAD^+ Drives the Transition from Anti-inflammatory to Osteogenic Function for Bone Regeneration*
12:20 – 12:45	**Richard Murray** *Keynote Session*	*Publishing in the Advanced Portfolio*
12:45 - 14:00	Lunch at the conference venue	
Chair	Radostina Georgieva	
14:00 – 14:45	**Ravin Narain** *Plenary Lecture*	*Enhancing Nucleic Acid Stability and Delivery using Glycopolymer and Biopolymer-based Nanoformulations*
14:45 – 15:10	**Marco Marradi** *Keynote Session*	*Hybrid Glyco-Gold Nanoparticles Displaying Multivalent Iminosugars as Modulators of the Lysosomal Enzyme Gcase*
15:10 – 15:35	**Nongnuj Muangsin** *Keynote Session*	*Zwitterionic Quaternized Hyaluronate Self-Assembly for Enhanced Cellular Uptake in Drug Delivery*
15:35 – 15:50	**Tamara Dacoba** *Oral contribution*	*Nanoparticle Surface Chemistry Determines Protein Corona Formation*
15:50 – 16:05	**Alexander Bittner** *Oral contribution*	*Thin Water Layers on a Virus - AFM and Neutron Reflectometry*
16:05 – 16:20	**Lydia Martínez-Parra** *Oral contribution*	*Electrostatic Modulation in Self-Assembled Peptide Systems for Neural Cell Fate*
16:20 – 16:35	**Ane Escobar** *Oral contribution*	*Membrane-Targeted Metallic Nanoparticles Photomodulate Neuronal Activity*
16:35 – 17:00	Coffee Break	
17:00 – 17:25	**Danijela Gregurec** *Keynote Session*	*Physical Transduction Pathways in Magnetic Nanomaterials for Wireless Neuromodulation*
17:25 – 17:50	**Alberto Perna** *Keynote Session*	*Self-Assembled Antifouling Coatings and Functional Electrode Interfaces for High-Density Neural Probes*
17:50 – 18:10	**Closing Remarks**	

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Poster Session: Wednesday, February 25, 2026

Order	Author	Tittle	Code
1	Ahmed Subrati	*Graphene-Incorporated Ultra-High-Molecular-Weight Polyethylene Composites for Innovative Prosthetic Solutions in Arthroplasty*	P001
2	Zuffi Sofia	*Polymer-based vectors for plasmid delivery: early development for a non-viral CAR-T cell therapy approach*	P002
3	Judith Bruyère	*Engineering a living cell-based anti-tumoral therapy by combining smart materials and genetic circuits.*	P003
4	Giulia Vozzolo	*Piezoelectric Polymer Coated Magnetic Nanodiscs for Magnetically Induced Electrical Stimulation*	P004
5	Sunisa Thongsom	*β-Cyclodextrin Nanosponges as a Dual-Drug Delivery System For C-MYC Inhibition and Chemotherapy Enhancement*	P005
6	Melanie Ferrace	*Fabrication and Characterization of Probiotic Biohybrids Assembled via Coaxial Electrospinning for Colon-Targeted Oral Delivery*	P006
7	Ruiz Coman, Fernando	*Spray coating: a simple and reliable surface coverage method for biomedical applications*	P007
8	P. Rafael Donnarumma	*Enhancing Colloidal Stability of Anisotropic Magnetic Nanodiscs through Mesoporous Silica and P(NIPAM/MAA) Copolymer Coatings*	P008
9	Erick Cordero	*Synthesis of Supramolecular Nanoparticles for Drug Delivery and Vaccines Design*	P009
10	Ilaria De Cristofaro	*Ionizable Lipid Nanocarriers for Targeted siRNA Delivery: Impact of Lipid Composition and Surface Functionalization*	P010
11	Brandhon F. Flores-Ibarra	*Targeted Ion Delivery by Electrically Conductive Gelatin-Based Hydrogels*	P012
12	Alejandro Fábrega-Puentes	*Design and Characterization of UiO-66 MOFs for Targeted Chemotherapy and PET Imaging Applications*	P013
13	Claudia Gentili	*Effects of a Scopoletin-Derived Hybrid on the Viability of Colorectal Cancer Cells*	P014
14	Soichiro Kondo	*Nanocarrier Targeting of Ischemic Myocardium Through Regioselective Glucose Recognition*	P016
15	Micaela A. Macchione	*Hybrid Magnetic Thermo-Responsive Nanostructures for Controlled Viral Vector Release*	P017
16	Guanghao Hu	*In Vivo Programming of CAR T Cells Using Anti-CD3-Targeted mRNA Micelles*	P018

17	Wei-Chun Weng	*The Development of AMP-based Antibiotics for Carbapenem-resistant Klebsiella Pneumoniae and Carbapenem-resistant Acinetobacter Baumannii*	P019
18	Yuki Nakashima	*Systematic control of polycation length in polymeric micelles enhances in vivo mRNA delivery*	P020
19	Eduart Gutiérrez-Pineda	*Polypyrrole-based hybrid systems for bidirectional electro–mechano–magnetic transduction in neurostimulation*	P022
20	Eduart Gutiérrez-Pineda	*Electrically Triggered Ca^{2+} Release from Carboxylated Polypyrrole Coatings for In-Vitro Calcium Signalling Modulation*	P023
21	Nanami Maehara	*Development of a renal excretory Nano-Ruler MRI Probe for Early Detection of Chronic Inflammation*	P024
22	Patumporn Manowan	*Single-cell Layer-by-Layer Assembly on Probiotic Lactobacillus plantarum for Enhanced Viability during In Vitro Digestion and Potential Cancer Therapy Applications*	P025
23	Marco Micali	*Personalized Targeting of Blood–Brain Barrier Opening via Low-Intensity Focused Ultrasound: The Pulsar Framework for Accurate Preclinical Delivery*	P026
24	Kevin Barthelmes	*Long-Lived Yet Reversible Bonds in Water: From Sub-Seconds to Months*	P027
25	Valeria Petrova	*Horse Serum–Based Validation of an Adipogenic Differentiation Protocol for Equine ASCs*	P028
26	Ekaterina Vachkova	*Quality Control of Equine Adipose Stem Cells (ASCs) for Clinical Application*	P029
27	Boyana Paarvanova	*Real-Time Hemolysis Assay via Spectrophotometric Methods*	P030
28	Kahan Celik	*Emerging Exosome-Based Therapeutic Approaches in Lupus Nephritis*	P031
29	Samuil Stanev	*Partitioning of Thioridazine and Chlorpromazine Between Erythrocyte Membranes and Albumin Nanoparticles*	P032
30	G. Savova	*Electrochemical Investigation of pMPC Liposome Structural Stability on Gold and Carbon Electrodes*	P033
31	Bilyana Tacheva	*Spectroelectrochemical Analysis of Redox Potential of Hemoglobin-Based Submicron Particles*	P034
32	Lívia Chaves Corvino Silva	*Synthesis of copolymer comprising polyanionic segment to stabilize hybrid nanoparticles for siRNA delivery*	P035
33	Christian Trengereid	*The Possible Mechanism of Anti-Tumoric Effect of Brown Adipocytes*	P036
34	Liya Mihalkova	*Prevention of Hemolysis by Stabilizing the Erythrocyte Membranes with Nanoparticles*	P037

35	Natalia Zografidou	*The Use of Self-Assembled Hybrid Nanoparticles in Ocular Oncology*	P038
36	Luis C. Almeida	*Stimuli-responsive supramolecular hydrogels via dynamic boronate ester bonds for 3D cell culture*	P039
37	Rebeca Rocha Batista	*Influence of Cultivation Conditions of Bacterial Nanocellulose and the Formulation of Chitosan Nanoparticles with Mangiferin on the Development of Biocuratives*	P041
38	Allana Carvalho Sila	*siRNA-Loaded Chitosan Nanoparticles as a Promising Strategy for Lung Cancer Therapy*	P042
39	Paolo Di Gianvincenzo	*Cyanidin/Alginate self-assembled, supramolecular structures: influence of pH and origin of chiroptical properties*	P043
40	Eva Carpintero Cueto	*Engineered Protein-Nanomaterial Hybrids for Targeted Combination Cancer Therapies*	P044
41	Julián Fuentes	*Desolvation-Driven Self-Assembly of Human Platelet-Derived Proteins into Functional Nanocarriers*	P045
42	Miroslav Karabaliev	*Indirect methods for studying drug-nanoparticle interactions*	P046
43	Estael Cruz Cazarim	*Development of Hybrid Multimodular Nanoparticles Comprising Calcium Carbonate and Plant Lipids for RNAi based Melanoma Therapy*	P040

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