

SMS / NanoMed / Sensors / EGF 2025
Joint International Conferences Preliminary Program
29 - 31 October 2025, Rome - Italy

Wed. 29 Oct. 2025		
08:00 - 12:00	Conference Registration	
09:00 - 09:30	Welcome Coffee Break	
SMS 2025 / EGF 2025 / Sensors 2025 / NanoMed 2025 Joint Plenary Session I		
Conference Room 1		
Session Chairs:		
10:00 - 10:30	Benzene: the Molecule that Changed the World N. Martín	Prof. Nazario Martín León, Complutense Univ. of Madrid/ IMDEA, Spain
10:30 - 11:00	Development of Advanced Magnetic Microwires with Amorphous Structure for Technological Applications A. Zhukov, P. Corte-León, J. M. Blanco and V. Zhukova	Prof. Arcady Zhukov, University of Basque Country, Spain
11:00 - 11:30	Surfaces and Interfaces for Radiative Cooling through to Gas Sensing I. Parkin	Prof. Ivan Parkin, University College London, UK
11:30 - 12:00	Integrated Experimental and Computational Tools for Smart Corrosion Prediction in Organic-Coated Metals H. Terryn	Prof. Herman Terryn, Vrije Universiteit Brussel, Belgium
12:00 - 12:30	Plasmonic Single-Molecule Affinity Detection at 10 ⁻²⁰ Molar L. Torsi	Prof. Luisa Torsi, University of Bari, Italy
12:00 - 14:00	Lunch Break - Restaurant	
SMS 2025 Session I. A: Smart & Multifunctional Materials, Coatings and Surfaces		
Session Chairs:		
14:00 - 14:30	Hybrid Green Materials based on Halloysite Clay Nanotubes G. Cavallaro	Prof. Giuseppe Cavallaro, University of Palermo, Italy
14:30 - 15:00	Strategies to address critical challenges in smart adhesives K.J. Hsia	Prof. K Jimmy Hsia, Nanyang Technological University, Singapore
15:00 - 15:15	Manufacture of Multicharged Cationic Surfactant-Capped Silver Nanoparticles: Experimental Design and Optimization S.J. Balicki, Ł. Lamch and K.A. Wilk	Dr. Sebastian Balicki, Wrocław University of Science and Technology, Poland
15:15 - 15:30	Targeted removal of Copper and Cobalt ions from contaminated systems: A case of functionalized SBA-15 M. Dulski, A. Strach, R. Zaleski, M. Gorgol, K. Pawlik ⁴ , P. Pawlik, M. Laskowska, A. Viskna, V. Grebnevs ⁶ , J. Jała and Ł. Laskowski	Dr. Mateusz Dulski, University of Silesia, Poland
15:30 - 15:45	Synthesis–Structure–Property Relationships in Barium-Based Perovskites T. Petkova, V. Ilcheva, V. Boev, V. Zhelev, O. Kostadinova	Prof. Tamara Petkova, Institute of electrochemistry and energy systems, Bulgaria
15:45 - 16:00	Ta-doped lead-free NaNbO ₃ -based materials for enhancing energy storage properties S. Nesa Soheli, Z. Lu, D. Sun and I. Shyha	Ms. Sairatun Nesa Soheli, Edinburgh Napier University, UK
16:00 - 16:30	Afternoon Coffee Break	
Session Chairs:		

16:30 – 16:45	Low-Dimensional Self-Attracting Layer-By-Layer (SALBL) Thiophene, Silver and Copper Nano/Microworld in the Ever-Changing Sensing and Hydrogen Evolution Technological Advancement Environments O.J. Fakayode , B. Manbuea, S. Sigonya and B.M. Mothudi	Dr. Olayemi J. Fakayode , University of South Africa, South Africa
16:45 - 17:00	Impact of doping strategy and oxygen injection times on the thermo-chromic behavior of Ta-doped VO ₂ films A. Casas-Acuña , A.J. Santos, N. Martin, J.J. Jiménez, M. Garzón, R. García and F.M. Morales	Ms. Andrea Casas Acuña , University of Cádiz, Spain .
17:00 - 17:15	Surface Modification of Lignin Particles by Ozone Treatment for Enhanced Dispersion Stability P. Gholami , C. Caponio, M.H. Lahtinen, A. E. Alexakis, C. Zimmer, K.S. Hildén, W. Reynolds, M.H. Sipponen and K.S. Mikkonen	Mr. Peyman Gholami , University of Helsinki, Finland

Wed. 29 Oct. 2025		
SMS 2025 / Sensors 2025 - Session I. B: Innovations in Sensing Principles, Materials, and Fabrication		
Conference Room 2		
Session Chairs:		
14:00 - 14:30	Carbon Gas Sensors - From Materials to Devices M. Penza	Prof. Michele Penza, ENEA , Italy
14:30 - 15:00		Prof. Andrea Cusano, University of Sannio, Italy
15:00 - 15:30		Prof. Alessandro Porchetta, Univ. of Rome Tor Vergata, Italy
15:30 - 15:45	Additively Manufactured Smart Washer: Vertical Interdigitated Capacitive Sensor for Load Monitoring E. Basso, P. Cosseddu, C. Gotti, T.M. Brugo, M. Zauli, L. De Marchi, A. Zucchelli and F. Meoni	Mr. Enrico Basso, Univ. Bologna, Italy
15:45 - 16:00	Combined up-converting luminescence from NaYGdF4 microrods co-doped with Yb3+, Er3+, and Ho3+ ions for increasing IR detection A. Gonzalo, E. García-Tabarés, B. Serrano, E. Salas Colera, A. Parwez, J. E. Muñoz Santiuste and B. Galiana	Dr. Alicia Gonzalo Martín, University Carlos III Madrid, Spain
16:00 - 16:30	Afternoon Coffee Break	
Session Chairs:		
16:30 - 16:45	Smart Braided Composite Rebars (BCR) for concrete reinforcement and Structural Health Monitoring (SHM) D. Dias, J. Sousa, G. Oliveira, J. Bessa, R. Fangueiro, J. Fontes and A. Gomes	Mr. Duarte Dias, Fibrenamics, Portugal
16:45 - 17:00	Te-doped ZnO thin films obtained by spray pyrolysis P. Petkov, T. Petkova and P.Bancheva-Koleva	Prof. Plamen Petkov, University of Chemical Technology and Metallurgy, Bulgaria
17:00 - 17:15	Enhanced NH3 Sensing Performance using ZnO/SWCNT-COOH Heterostructure Gas Sensor E. Seo, H. Kim and K. Kim	Ms. Eunji Seo, Jeonbuk National University, Rep. of Korea
17:15 - 17:30	A Haptic Interface with the Integration of Actuating and Sensing based on PVC Gel AE-skin C. Tian and M. Yu	Mr. Chengbo Tian, Nanjing University of Aeronautics and Astronautics, China
17:30 - 17:45	All-optical Diffractive Deep Neural Networks using Photo-induced Liquid Crystal Devices W. Zhang, F. Yeung, M. Tseng and H. Kwok	Dr. Wanlong Zhang, Hong Kong University of Science and Technology, China
17:45 - 18:00	Sustainable revalorization of the residual biomass of Rhodotorula glutinis via green synthesis of carbon quantum dots for multifunctional applications C. Ramírez-Martínez, A. Maya-Morales, A. Salazar-Martínez, R. Peña-Rivera, A.L. Torres-Huerta and A. Ordaz	Ms. Carolina Ramírez Martínez, Monterrey Institute of Technology, Mexico.

Wed. 29 Oct. 2025		
SMS 2025 / NanoMed 2025 - Session I. C: Next Gen Nanomaterials and Biofabrication / Bioinspired / Biomimetic Bioactive Materials		
Conference Room 3		
Session Chairs:		
14:00 - 14:30	Bioinspired calcium phosphate nanocrystal arrays with antibacterial and bone-regenerative functions M. Iafisco	Prof. Michele Iafisco, CNR, Institute of Science, Technology and Sustainability for Ceramics, Italy
14:30 - 14:45	NanoGUMBOS: Tunable Organic Salt Nanomaterials for Biomedical Applications S. Hamdan and I.M. Warner	Dr. Suzana Hamdan, University of Cincinnati, USA
14:45 - 15:00	Advanced Nanostructured Coatings for Wound Dressing with Improved Thermal Conductivity and Antimicrobial Properties M.Pollini, R. Striani, F. Paladini, A. Kiani, M.R. Acocella and C. Esposito Corcione	Prof. Carola Esposito Corcione, University of Salento, Italy
15:00 - 15:15	Electrospun poly(γ -benzyl-L-glutamate) nanofibrous membranes as scaffolds for RPE cell cultivation M. Souibgui,, Y. Nemesh, V. Cimrová, J. Hodan, V. Proks, Z. Ellederová and H. Studenovska	Dr. Mourad Souibgui, Institute of Macromolecular Chemistry, Czech Rep.
15:15 - 15:30	Oxidized ZrNb2.5alloy in Orthopaedics-Case study E. Kocjancic, M. Jenko, S. Tadel Kocjancic and B. Kocjancic	Dr. Spela Tadel Kocjancic, Univ. of Ljubljana, Slovenia
15:30 - 15:45	Engineering soft tissue flap with nanofibrous vascular complexity for microsurgical reconstruction Q.L. Zhang and P. Yu	Dr. Qixu Luke Zhang, University of Texas, USA
16:00 - 16:30 Afternoon Coffee Break		
Session Chairs:		
16:30 - 16:45	Enhancing Transdermal Delivery of Natural Bioactive Compounds Using Enzyme-Modified Composite Hydrogels E. Diamanti, M. Zoumpanioti and V. Papadimitriou	Dr. Eleftheria Diamanti, National Hellenic Research Foundation, Greece
16:45 - 17:00	Decellularized Human Lung Matrix as a Smart Biomaterial for Modeling Stromal Remodeling in Breast Cancer I. Belviso, M.L. Motti, E. Del Genio, A. Mileo, A. Fiorelli, N. Giorgiano and R. Pastore	Prof. Immacolata Belviso, Telematic University Pegaso, Italy
17:00 - 17:15	Gallic Acid released from Layered Double Hydroxide-Coated HA/ β -TCP Scaffolds Suppresses Osteoclast Formation In Vitro C. Suvieri, M. Bastianini, S. Pagano, L. Marinucci, V. Ambrogi, M. T. Pallotta, M. Sisani and M. L. Belladonna	Dr. Chiara Suvieri, University of Perugia, Italy
17:15 - 17:30	Bioinspired hierarchical shark scale microstructures produced by a femtosecond laser in stainless steel D. Saz, N. Burger, G. Liedl, A. Otto and R. Fürbacher	Mr. Daniel Saz, TU Wien, Austria

Wed. 29 Oct. 2025		
EGF 2025 - Session I. D: Graphene and 2D Materials: From Fundamentals to Functional Materials		
Conference Room 4		
Session Chairs:		
14:00 - 14:30		Prof. Artem Mishchenko , University of Manchester, UK
14:30 - 15:00	Synthesis and structure-properties relationship of novel 2D carbon-based materials: a joint theoretical and experimental study S. Achilli	Prof. Simona Achilli , University of Milan, Italy
15:00 - 15:30		Prof. Monica Craciun , University of Exeter, UK
15:30 - 15:45	On the mechanical stability of graphene in situ grown on Cu(111) C. Coupeau , A. Claudel, M. Drouet, A.C. Gomez Herrero, V. Bouchiat and J. Durinck	Prof. Christophe Coupeau , University of Poitiers, France
15:45 - 16:00	Chemical derivatization of Graphene-based nanomaterials: a surface Chemistry perspective F. Amato , D. Possenti, M. Daino, L. Giaccari, R. Marino, M. Lucianatelli, A. Motta, G. Olivo and A. G. Marrani	Dr. Francesco Amato , University "La Sapienza" Rome, Italy
16:00 - 16:30 Afternoon Coffee Break		
Session Chairs:		
16:30 - 16:45	Electric Field Control of Metal-to-Semiconductor Transition in Bilayer PtTe ₂ S.J. Kheirabadi , F. Gity, P. K. Hurley and L. Ansari	Dr. Sharieh J. Kheirabadi , University College Cork, Ireland
16:45 - 17:00	Semiconducting Pt Structures Stabilized on 2D MoS ₂ Crystals Enable Ultrafast Hydrogen Evolution P. Vancsó , T. Ollár, P. Kun, A. A. Koós, G. Dobrik, E. V. Sukhanova, Z. I. Popov, M. Németh, K. Frey, B. Pécz, P. Nemes-Incze, C. Hwang, J. S. Pap and L. Tapasztó	Dr. Peter Vancso , HUN-REN Centre for Energy Research, Hungary

Thu. 30 October 2025		
SMS 2025 / EGF 2025 / Sensors 2025 / NanoMed 2025 Joint Plenary Session II		
Conference Room 1		
Session Chairs:		
08:30 - 09:00	Electronic properties of interfaces and molecular junctions involving ferromagnetic electrodes J. Cornil	Prof. Jérôme Cornil, University of Mons, Belgium
09:00 - 09:30	The versatility of tilted fiber Bragg grating sensing: principles and applications from battery monitoring to biosensing C. Caucheteur	Prof. Christophe Caucheteur, University of Mons, Belgium
09:30 - 10:00	Brain Cholesterol Matters: A 25-Year Journey Toward Nanomedicine-Based Therapies for Huntington's Disease E. Cattaneo	Prof. Elena Cattaneo, University of Milan & INGM, Italy
10:00 - 10:30	Smart Nanocoatings Against Pathogens: Insights from the EU Sister Projects NANOBLOC, NOVA & RELIANCE C. Balagna, M. Blanco and S. Espinoza	Prof. Cristina Balagna, Polytechnic Torino, Italy
10:30 - 11:00 Morning Coffee Break		
EU projects Workshop: Next-Gen Nanocoatings: Accelerating Antimicrobial Innovation with Modeling & AI		
Session Chairs: Mrs. Ana Hristova, Europroject, Bulgaria		
Opening Session: Foundations & Future Directions		
11:00 - 11:10	Welcome & Opening Remarks	Mrs. Ana Hristova, Europroject, Bulgaria
Project Spotlights: Driving Antimicrobial Innovation		
11:10 - 11:25	RELIANCE Project: Smart Response Bio-based Nanocoatings for Healthier Environments A. Hristova	Mrs. Ana Hristova, Europroject, Bulgaria
11:25 - 11:40	NOVA Project: Novel Approaches to Antimicrobial Surface Design S. Espinoza	Dr. Sara Espinoza, DECHEMA, Germany
11:40 - 11:55	NANOBLOC Project: Antimicrobial Nanocoating for Real-World Protection C. Balagna	Prof. Cristina Balagna, Polytechnic Torino, Italy
Accelerating Antimicrobial Innovation with Modeling & AI		
Session Chairs: Dr. Sara Espinoza, DECHEMA, Germany		
12:00 - 12:30	Predictive Power: Modeling Antimicrobial Nanocoating Performance G. Leonis	Dr. Georgios Leonis, University of Patras, Greece
12:30 - 13:00	AI-Driven Discovery: Machine Learning for Novel Nanomaterials T. Soubrié	Mr. Thibaut Soubrié, PRESTE, France
12:00 - 14:00 Lunch Break – Restaurant		
Group Photo at 13:45		
14:00 - 14:30	Research Data Management (RDM) for Nanocoatings	-
Safety, Sustainability & Real-World Impact		
Session Chairs: Prof. Cristina Balagna, Polytechnic Torino, Italy		
14:30 - 15:00	Navigating the Nano-Landscape: Toxicology & Risk Assessment of Antimicrobial & Antiviral Nanocoatings E. Feyles	Dr. Elisa Feyles, University of Turin, Italy
15:00 - 15:30	Green Horizons: Ecotoxicity & Environmental Impact of Nanocoatings G. Ormazabal	Mr. Guillermo Ormazabal, Tekniker, Spain
Use Cases & Industrial Perspectives		

Session Chairs: Mrs. Ana Hristova, Europroject, Bulgaria		
15:30 - 16:00	Application of Antimicrobial Nanocoatings on Home Appliances S.Tarkuç	Dr. Simge Tarkuç , Arcelik, Turkey
16:00 - 16:30	Afternoon Coffee Break	
16:30 - 17:00	Scaling Up & Commercialization Insights M. Milani	Mr. Marcelo Milani , MPG, Luxembourg
17:00 - 17:15	Concluding Remarks & Open Discussion S. Espinoza	Dr. Sara Espinoza , DECHEMA, Germany

Conference Dinner
Conference venue hotel, 30 Oct. 2025 from 19:30

Thu. 30 October 2025		
EGF 2025/ Sensors 2025 joint Session II. A: 2D Materials for Electronics, Energy, and Life Sciences		
Conference Room 2		
Session Chairs:		
10:30 - 11:00 Morning Coffee Break		
11:00 - 11:30	Funding opportunities for researchers: European Research Council (ERC) info-session A.I. Carrillo Gomez	Dr. Adela I. Carrillo Gomez, European Research Council Executive Agency, Belgium
11:30 – 12:00	Nanomaterials and Nanosensors for Cancer diagnostics L. Baraban	Prof. Larysa Baraban, Helmholtz Center Dresden Rossendorf, Germany
12:00 - 12:30	Immune profiling of 2D materials. L.G. Delogu	Prof. Lucia Gemma Delogu, Khalifa University, UAE & University of Padua, Italy
12:00 - 14:00 Lunch Break – Restaurant		
Group Photo at 13:45		
SMS 2025 / Sensors 2025 Focus Session II.B: Biosensors and Biosensing / Biomedical Sensors		
Session Chairs: Prof Stefano Cinti, University of Naples "Federico II", Italy		
14:00 - 14:30	Wearable microneedles-based biosensors for continuous monitoring of biomarkers for personalized medicine C. Tortolini, M. Caprio and R. Antiochia	Prof. Riccarda Antiochia, Univ. of Rome "La Sapienza", Italy
14:30 - 15:00	Designer DNA architectures for disease diagnosis X. Wang	Prof. Xing Wang, Univ. of Illinois at Urbana-Champaign, USA
15:00 - 15:30	Bioinspired optical nanobiosensors for sustainable diagnostics and environmental monitoring. E. Michelini	Prof. Elisa Michelini, University of Bologna, Italy
15:30 - 16:00		Prof. María Carmen Blanco López, Univ. of Oviedo, Spain
16:00 - 16:30 Afternoon Coffee Break		
SMS 2025 / Sensors 2025 Focus Session II.C: Next-Gen Miniaturized Biosensors: Toward Smart, Scalable, and Portable Sensing Systems		
Session Chairs: Prof. Fabiana Arduini, University of Rome Tor Vergata, Italy		
16:30 - 17:00	Physiological Sensing in the Real World: Challenges and Opportunities for Smart Wearables C. Massaroni	Prof. Carlo Massaroni, Univ. Campus Bio-Medico di Roma, Italy
17:00 - 17:30	Printed sensors for health and environmental monitoring P. Lugli	Prof. Paolo Lugli, Free University of Bozen-Bolzano, Italy
17:30 - 18:00	Molecularly Imprinted Polymers Meets Plasmonics: Light-Assisted Routes to Smart Sensors O. Soppera	Prof. Olivier Soppera, Univ. Haute-Alsace, France
18:00 - 18:15	Molecularly imprinted polymer-based novel conductometric biosensor for rapid, sensitive, and non-invasive detection of trypsin A. Singhal, G.S. Perera, F. Akhlaghi Bagherjeri, M. Bhaskaran, S. Sriram and R. Khan	Ms. Ayushi Singhal, RMIT University, Melbourne, Australia
18:15 - 18:30	A simple and stable nanofiber-based immunosensor for cortisol detection S. Baluta, K. Kolodzinska, L. Sznitko and J. Cabai	Prof. Joanna Cabaj, Wroclaw University of

		Science and Technology, Poland
18:30 - 18:45	Enhanced Angular Sensitivity of a 1D Photonic Crystal in Liquid Analytes Sensing via Integration of Plasmonic and 2D Materials M.Gryga , R. Kanok, J.Chylek, D. Ciprian, P.Hlubina	Dr. Michal Gryga , Technical University of Ostrava, Czech Rep.
18:45 - 19:00	Opto-Electrochemical Fiber-Optic Sensors for Next-Generation Bioanalysis M. Janik	Dr. Monika Janik , Warsaw University of Technology, Poland

Conference Dinner
Conference venue hotel, 30 Oct. 2025 from 19:30

Thu 30 Oct. 2025

**NanoMed 2025 Session II. D:
Therapeutics, Regeneration & Oncology / Diagnostics and Imaging / Safety & Future Frontiers**

Conference Room 3

Session Chairs:

14:00 - 14:30	Nanoparticles Under the Microscope: The Power of 3D Models S. Rocha	Prof. Susana Rocha , KU Leuven, Belgium
14:30 - 15:00	Eliminating Medical Device Infections With Nanotechnology: 30,000 Patients and Still Counting T. Webster	Prof. Thomas J. Webster , Hebei Univ. of Technology, China
15:00 - 15:15	Wireless Bone Stimulation via Coupled Magnetoelectric and Piezoelectric Nanoparticles: An In Silico Study I. Faricelli , M. Lenzuni, P. Giannoni, P. Ravazzani and A. Marrella	Ms. Ilaria Faricelli , CNR-Genoa, Italy
15:15 - 15:30	Surface topography and optical measurements as a tool for investigating drug delivery from nanostructured bioprinted materials A. de Nigris , G. Quero, G. P. Vanoli and L. Ambrosone	Dr. Antonio de Nigris , University of Molise, Italy
15:30 - 15:45	Nanogels for pulmonary drug delivery N. Politakos , P. Stamou, M. Matzapetakis and C. Chochos	Dr. Nikolaos Politakos , National Hellenic Research Foundation, Greece
15:45 - 16:00	Chitosan-tripolyphosphate-DNA Nanoparticles to Induce Transient Gene Therapy by Expressing an Exogenous Enzyme in Sparus aurata: Dietary Supplementation Versus Intraperitoneal Injection W. Duan , Y. Wu, A. Rashidpour and I. Metón	Ms. Wenwen Duan , Univ. Barcelona, Spain
16:00 - 16:30 Afternoon Coffee Break		
Session Chairs:		
16:30 - 16:45	Functionalized nanomaterial based on tungsten disulfide (WS ₂) and gold nanoparticles (AuNPs) activated by radiation for cancer therapy G. Cenci , S. Pinelli, M. Santi, N. Rivi, M. Villani, M. Bormetti, E. Ferrari, V. Sinisi, P. Papadopoulou, F. Bonaccorso, F. Fabbri, F. Bigi, G. Salviati and F. Rossi	Mrs. Gloria Cenci , University of Parma, Italy
16:45 - 17:00	Non-Lamellar Lipid Nanoparticles as Innovative Vectors for RNA Delivery L. Conti , M. Rojas-Rodruigez, L. Caselli, M. Calamai, M. Marradi, D. Berti and C. Montis	Ms. Laura Conti , University of Florence, Italy
17:00 - 17:15	Nanoemulsion-Based Delivery of Verteporfin for Effective Photodynamic Cancer Treatment A.B. Davila Ibanez , V.L. Funes and R. López	Dr. Ana Belen Davila Ibanez , CIBERONC - Madridn Spain
17:15 - 17:30	Harnessing Mirror-Image Peptides: Nanoparticle Vectors for Nucleic Acid Delivery in Cancer Treatment A. Banfi , L. Salvioni, B. Petrucci, M. Colombo and D. Prosperi	Mr. Andrea Banfi , University of Milano-Bicocca, Italy
17:30 - 17:45	Targeting Cancer with Hyaluronic Acid-Coated Magnetic Nanoparticles: A Smart Drug Delivery Approach F. Oltolina , I. Andreana, E. Borroni, C. Jimenez-Lopez, S. Arpicco and A. Follenzi	Dr. Francesca Oltolina , Univ. del Piemonte Orientale, Italy
17:45 - 18:00	Biomimetic Magnetic Nanoparticles as Novel Strategy for Targeted Gene Therapy in TNBC A. D'Urso , F. Oltolina, A. Cucci, E. Borroni, C. Mocchetti, C. Jiménez-Lopez and A. Follenzi	Dr. Annarita D'Urso , Univ. del Piemonte Orientale, Italy
18:00 - 18:15	Nanodiamond as a Biocompatible Factor Disrupting Angiogenesis in the Tumor Microenvironment. Studies on mouse endothelial cells B.Wójcik , K.Zawadzka and M.Wierzbicki	Dr. Barbara Wójcik , University of Life Sciences, Poland

Fri. 31 Oct. 2025		
SMS / EGF 2025 Session III.A: Applications for energy and environment		
Conference room 1		
Session Chairs:		
09:30 - 09:45	Influence of Nanopores on the Mechanical Properties of Graphene for Desalination Applications: A Multiscale Approach M. Curatolo , G. Ciardullo, G. Mazzone, G. Salerno and E. Sicilia	Dr. Michele Curatolo , University of Calabria, Italy
09:45 - 10:00	3D hydrogel filters as colorimetric indicators of mercury and simultaneous wastewater remediation F. Norouzi , K. Dziza, A. Athanassiou and D. Fragouli	Ms. Fatemeh Norouzi , Italian Institute of Technology- Genova, Italy
10:00 - 10:30	Morning Coffee Break	
10:30 - 10:45	Synthesis of Carbon Quantum Dots from T. versicolor extracts and their potential for aromatic compound degradation L. Gómez and A. Antonio	Mr. Leonardo Gómez , Monterrey Institute of Technology, Mexico .
10:45 - 11:00	Innovative Leaching of NMC Using Spent LFP as Reducing Agent for Closed-Loop Cathode Precursor Recovery R. Milone , F. Pagnanelli, P. Altimari and P.G. Schiavi	Mr. Raimondo Milone , Sapienza University. Rome, Italy
11:00 - 11:15	Samarium-doped cobalt ferrite anchored on reduced graphene oxide nanocomposites with enhanced peroxymonosulphate photocatalytic degradation of Bisphenol A C. Donga and P. S. Mbule	Dr. Cabangani Donga , University of South Africa. South Africa
11:15 - 11:30	Water-Processable Polymer Nanoparticles as Alternative Photosensitisers for Visible-Light-Driven Efficient Cofactor Regeneration in Artificial Photosynthetic Hybrid Systems F. Villafiorita-Monteleone , A.M. Ferretti, A. Giacometti Schieron, F. Secundo and S. Zappia	Dr. Francesca Villafiorita-Monteleone , SCITEC- CNR, Italy
11:30 - 11:45	Photocatalytical degradation of tetracycline solution by sunlight active hybrid core shell nanoparticles L. Mancic , I. Dinic, M. Vukovic, M. Tomic, N. Tomic, B. Canabarro, P. Jardim, L. Almeida and B.A. Marinkovic	Dr. Lidija Mancic , Institute of Technical Sciences of SASA, Serbia
11:45 - 12:00	A Solid-Solution of BiOCl-Bi ₄ O ₅ Br ₂ Photocatalyst with Enhanced Photocatalytic Activity for As(III) Oxidation and Cr(VI) Reduction T. Luangwanta and S. Kaowphong	Mr. Tawanwit Luangwanta , Chiang Mai, Thailand

Fri. 25 Oct. 2025		
Sensors 2025 Session III.B: Environmental Sensors/ Smart Sensor Networks/ AI Integration		
Conference room 2		
Session Chairs:		
09:00 - 09:30	Sensing in Organ-on-Chip: Bioinspired Strategies E. Martinelli	Prof. Eugenio Martinelli , Univ. of Rome Tor Vergata, Italy
09:30 - 09:45	Investigation of PZT Sensors Efficiency for Damage Detection and Structural Health Monitoring M. Dziendzikowski , K. Kowalczyk and Z. Dworakowski	Dr. Michal Dziendzikowski , Warsaw University of Technology, Poland
09:30 - 10:00	MOX Sensors Employed in the Detection of Olive Oil Quality and Adulteration M. Astolfi , M. Masin, S. Gherardi, G. Zonta, C. Malagù, P. Ortega and G. Rispoli	Dr. Michele Astolfi , University of Ferrara, Italy
10:00 - 10:30	Morning Coffee Break	
10:30 - 10:45	Liquid-Crystals Sensors for real-time monitoring of airborne pesticides in spraying areas N. Razi , S. Peralta, P. Banet, A. Khaldi, L. Dupont and P.-H. Aubert	Ms. Nour Razi , Cergy Paris University, France
10:45 - 11:00	Fabrication of modified α -Fe ₂ O ₃ NPs on ZnO NRs/Ni-foam nanocomposite as electrode for electrochemical detection of arsenic in drinking water S. Ngok , R. Yann, C.O. Chey, X. Liu, M. Willander and O. Nur	Ms. Sreymean Ngok , Linköping University, Sweden
11:00 - 11:15	Guided Wave Analysis for Inspection of Finned Tubes in Heat Exchangers C-C. Yin and K-Y. Lin	Dr. Ching-Chung Yin , National Yang Ming Chiao Tung University, Taiwan

N.	Poster Title	Author, Affiliation, Country
1.	A Comprehensive Study of Carbon Hybrid Structure Behavior Produced by PECVD L. S. Almeida, F. Fernandes, M. D. Manfrinato, B. C. Viana Neto and L. S. Rossino	Prof. Luciana Rossino , University of São Paulo, Brazil
2.	Coatable Photoaligned Azo-Dye Thin-Film Polarizer with Exceptional Dichroic Ratio M. C. Tseng , Y. C. Cheng, Y. L. Ho, O. Vashchenko, V. Vashchenko, S. T. Tang, S. Y. Yeung, and H. S. Kwok	Prof. Man Chun Tseng , Hong Kong Univ. of Science and Technology, China
3.	Studies on the physicochemical properties of F-doped DLC coatings deposited on Ti-6Al-7Nb surface for biomedical applications. H. Janicki	Mr. Hubert Janicki , Lodz University of Technology, Poland
4.	Exploring Low-Emissivity Coatings Based on Wide Bandgap Materials: Experimental and Theoretical Approaches R. Abubaker and M. F. Al-Kuhaili	Mrs. Reem Abubaker , King Fahd University of Petroleum and Minerals, Saudi Arabia
5.	Fabrication of Molybdenum Composite Powders with Uniformly Dispersed Copper via Chemical Routes J.Y. Kim, Y. Kim, E. Seon Lee and S-T. Oh	Prof. Sung-Tag Oh , Seoul National University of Science and Technology, Rep. of Korea
6.	Stimulated luminescence properties of Si ⁴⁺ Co-doped MgTa ₂ O ₆ : 1 mol% Cr ³⁺ D. V. Mlotswa , V. R. Orante-Barrón, D. Poelman, H. C. Swart, M. M. Duvenhage, R. Erasmus and L. L. Noto	Mr. Dumisani Mlotswa , University of the South Africa, South Africa
7.	Metamaterial for Electromagnetic Wave Absorption W-H. Jang , D. Shin, J. Park, K. Jin Jung and K. Lee	Dr. Woo-Hyeok Jang , Agency for Defense Development, Daejeon, Rep. of Korea
8.	New Double-headed Cationic Surfactants with Magneto-responsive Function as Magnetic Surface-Active Building Blocks for Functional Materials K. A. Wilk , Ł. Lamch, M. Korabik, S.J. Balicki, D. Szarpak, E. Jarek, P. Szklarz and P. Warszyński	Prof. Kazimiera A. Wilk , Wrocław University of Science and Technology, Poland
9.	Quantum-mechanical study of holey graphene surface models for the development of appropriate force fields to simulate water desalination G. Ciardullo , M. Curatolo, S. Koudjina, S. Scoditti, G. Mazzone, G. Salerno and E. Sicilia	Dr. Giada Ciardullo , University of Calabria, Italy
10.	Three-dimensional heterostructures of graphene–anatase nanowires and their photocatalytic performances under visible light irradiation L. Monica Veca , A.I. Istrate, I. Mihalache, C.A. Banciu, E.M. Mihai, G. Craciun, O. Brancoveanu, C. Romanitan and F. Comanescu	Dr Lucia Monica Veca , IMT Bucharest, Romania
11.	High-Temperature Graphene Hall Probes L. Supalová, M. Bartošík , V. Švarc, J. Mach 1,2, J. Piastek, O. Špaček, M. Konečný and T. Šikola	Dr. Miroslav Bartošík , Brno University of Technology, Czech Rep.
12.	Magnetic properties and applications of glass-coated ferromagnetic microwires V. Zhukova , P. Corte-León, J. M. Blanco and A. Zhukov	Dr. Valentina Zhukova , University of Basque Country, Spain
13.	Solution-Processable Hydrophobic Composite for Pressure Sensing on Metal Oxide TFTs M. Yang, R.S. Chen , M. C. Tseng, F. S. Y. Yeung and H. S. Kwok	Dr. Rongsheng Chen , Hong Kong University of Science and Technology, China
14.	Synthesis of Pd-Au(alloy)@NiO Core-Shell Nanoparticles and LSPR Effect Based H ₂ Gas Sensing Mechanism D-S. Kim and Y-T. Yu	Mr. Dong-Seog Kim , Jeonbuk National University, Rep. of Korea
15.	NanoBloc: Multifunctional Composite Coatings for Antimicrobial and Antiviral Activity A. Luceri , S. Perero, M. Donalisio, D. Lembo, M. Ferraris and C. Balagna	Dr. Angelica Luceri , Politecnico di Torino, Italy
16.	Development of Surface-Modified Silicon Nanoparticles for Enhanced Antibody Immobilization in ELISA-Based Diagnostics M. Endra Swe and K. Sato	Ms. Myat Endra Swe , Tokyo Denki University, Japan

17.	ND potential as antitumoral ECM component in the tumor microenvironment model K. Zawadzka , B. Wójcik, M. Wierzbicki and S. Jaworski	Ms. Katarzyna Zawadzka , Warsaw University of Life Sciences, Poland
18.	The influence of hedgehog (Hh) signalling in modulating the radiosensitivity of Glioblastoma tumour models B. Alkhalidi , H. McCarthy and J. Coulter	Mrs. Bayan Alkhalidi , Queen's University Belfast, UK
19.	Green-Synthesized Gold Hydrogels: A Dual-Action Platform for Photothermal and Chemotherapeutic Cancer Therapy M. Rubio-Camacho , A. Balah-Tahiri, R. Martínez-Baquero, R. Esquembre, M. J. Martínez-Tomé and C.R. Mateo	Mrs. Marta Rubio Camacho , Miguel Hernández University, Spain
20.	Innovative Approaches to Emergency Epilepsy Treatment: A Comprehensive Study of Diazepam PLGA Nanoparticles and Lavender Oil Niosomes, Including In Vitro and In Vivo Testing, Optimization, and Characterization of Super-Fast-Dissolving Tablets A. Adel , I. El-Sherbiny, N. El-Haddad, S. Islam, S. Imam and A. Esam	Ms. Aya Adel , Zewail City of Science and Technology, Egypt
21.	Physicochemical Profiling of Surface Heterogeneity in PEGylated Liposomes S. L. Appleton , G. Bucher, F. Fumagalli, J. Ponti and D. Mehn	Ms. Silvia Lucia Appleton , European Commission, Joint Research Centre -Ispra, Italy
22.	Effect of Fullerene C60 Nanofilm in the Pre-metastatic Niche Hepato-cellular Carcinoma with Hypoxia and High Level of Growth Factors M. Sosnowska and M. Kutwin	Dr. Malwina Sosnowska , Warsaw University of Life Sciences, Poland
23.	Combinatorial Therapeutic Efficacy of Chitosan Nanoparticles Encapsulating 5-Fluorouracil and Santalum Album Essential Oil Against Negative Breast Cancer (TNBC) Cell Line. S. T. Mansour , R. R. Haikal, and W. Mamdouh.	Ms. Somaia Tawfik , American University in Cairo, Egypt
24.	Hybrid Hyaluronic-Nanostructured Lipid Carriers Loaded with Centella asiatica with Improved Bioactivity Profile I. Lacatusu, M. Neagu, G. Alexandru, M. Prisacari, M. Bacalum and N. Badea	Prof Badea Nicoleta , National Univ. of Science & Tech. Polytechnic of Bucharest, Romania
25.	Diamond nanoparticles induce toxicity in endothelial cells through eNOS uncoupling – a study in static and dynamic culture M. Wierzbicki , K. Zawadzka, B. Wójcik, M. Kutwin, M. Sosnowska, A. Ostrowska and S. Jaworski	Prof. Mateusz Wierzbicki , Warsaw University of Life Sciences, Poland
26.	Morphological Alterations in Endothelial Cells Following Exposure to Diamond Nanoparticles: Insights from Scanning Electron Microscopy M. Kutwin , B. Wójcik, K. Zawadzka and M. Wierzbicki	Dr. Marta Kutwin , Warsaw University of Life Sciences, Poland
27.	Effect of zinc oxide nanoparticles on the number and biodiversity of plant growth promoting bacteria S. Jaworski , A. Lange and M. Motrenko	Prof. Sławomir Jaworski , Warsaw University of Life Sciences, Poland
28.	Two-component nanocomposite disrupting biofilm formation of Staphylococci bacteria A. Lange and S. Jaworski	Ms. Agata Lange , Warsaw University of Life Sciences, Poland
29.	P,N-doped Carbon Quantum Dots as Antagonistic Platforms for Fluorimetric Determination of PFOA R. Coufal , Š. Kunc, P. Mikeš and M. Fijalkowski	Dr. Radek Coufal , Technical University of Liberec, Czech Rep.
30.	Photothermal Modulation of Laccase Activity in Sol-Gel Entrapped Hybrid Systems A. Balah Tahiri , R. Martínez-Baquero, M. Rubio Camacho, C. Reyes Mateo, R. Esquembre and M. José Martínez-Tomé	Mr. Ahmed Balah Tahiri , Miguel Hernández University, Spain
31.	In-situ Fabrication of Multimodal Electronic Skin for Intelligent Robotics and Interactive Systems H. Lim , J. Choi and J. Ahn	Mr. Hakhyun Lim , Korea University, Rep. of Korea
32.	ITO modification on optical fiber sensor: the influence of electrochemistry and biofunctionalization J. Sikora , N. Kwietniewski, M. Śmietana and M. Janik	Mr. Jakub Sikora , Warsaw University of Technology, Poland
33.	Differential Detection of AMR-Associated Enzymes Using CTSM Acoustic Resonators E. Ramírez-Sánchez , A. Juste-Dolz, Y. Moreno and R. Fernández	Ms. Elena Ramírez-Sánchez , Univ. Politechnic Valencia, Spain
34.	Development of a new 3D-printed electrochemical platform for biosensor applications G. Istamboulie and T. Noguer	Dr. Georges Istamboulie , Univ. Perpignan France .
35.	Dual electrochemical immunosensor for fluoroquinolone detection in meat based on an electroactive derivative of difloxacin	Dr. Gaelle Catanante , Univ. Perpignan France

	G. Catanante , M. Gaillard, C. Aymard, T. Noguer & G. Istamboulie	
36.	Development and Application of a Potentiostat System for Real-Time Nitrate Monitoring in Algae-Based Aquaculture A. P. Silva , Y.R.Cruz, M. Werneck, R. Célia, S. B. Allil and C. Leal	Mr. Andre P. Silva , Univ. of Rio de Janeiro, Brazil
37.	Coupled Thickness Shear Mode Sensors: Redefining the Transduction Paradigm in QCM Technology A. Juste-Dolz , R. Fernández, M. Calero, Y. Jiménez and A. Arnau	Dr. Augusto Juste-Dolz , Univ. Politechnic Valencia, Spain
38.	Lightweight Unsupervised Analysis of Face Emotional Expressions from Visual Sensors E. Oldrini, G. Rosasco, G. Volta and R. Zunino	Dr. Giorgio Volta , University of Genova, Italy
39.	Catalytic activity of high-entropy spinel oxides with different entropy Ts. Lazarova , D. Kichukova, K. Tumbalova, C. Rosmini and G. Theochari	Dr. Tsvetomila Lazarova-Kyuleva , Institute of General and Inorganic Chemistry, Bulgaria
40.	UV-Assisted Degradation of Anionic Azo Dye Using the Interplay of TiO ₂ Polymorphs and Graphitic Carbon M. Mihai , L. Monica Veca, M. Stoian, C. Romanitan, I. Mihalache, F. Nastase, O. Simionescu, A. Matei, O. Brincoveanu, O. Ligor and A. Bragaru	Dr. Madalina Mihai , IMT Bucharest, Romania
41.	A Novel Zinc-Based MOF Featuring 2,4,6-Tris-(4-carboxyphenoxy)-1,3,5-triazine: Structure, Adsorption, and Photocatalytic Activity M. Angelova , R. Rusew, H. Lazarova, V. Kurteva, R. Nikolova and B. Shivachev	Mrs. Magdalena Angelova , Institute of Mineralogy and Crystallography "Acad. Ivan Kostov", Bulgaria
42.	Miniemulsion-based aqueous polymer nanoparticles for sustainable organic solar cells. S. Zappia , F. Villafiorita-Monteleone, A. Maria Ferretti, V. Ragona, N. Camaioni, G. Calandra Sebastianella and F. Tinti	Dr. Stefania Zappia , SCITEC-CNR, Italy
43.	Heat-treatment Effect on Photoelectrochemical Hydrogen Evolution of PdRhO _x /N-CeO ₂ Nanocomposite as a Photocathode G-J. Oh , D-S. Kim and Y-T. Yu	Mr. Geun-Jae Oh , Jeonbuk National University, Rep. of Korea
44.	Activated carbon derived from eggshell membrane for application in photovoltaic energy conversion devices E. T. Molekoa and P. Mbule	Prof. Pontsho Mbule , University of South Africa, South Africa

Oral Presentation and Poster terms

For the Oral Presentation:

Duration of each talk type (including 2 to 3 minutes for Questions/Answers):

- Keynote talk: 30 minutes. Oral presentation: 15 minutes.
- We do not impose a template for the oral presentation.
- You need to carry your presentation in USB key or external disk and **use the available presentations laptop** at the conference room.
- **Do not plan to use your own laptop.**

For the Poster:

- Poster dimensions must be within **100cm high X 80cm wide**.
- We do not impose a template for the poster content.
- Please display your poster at your poster board number as per the conference program.

Conference Venue Floorplan

The conference will be held at the [Courtyard by Marriott Rome Central Park hotel](#). Below is the venue floorplan.

