

# Materials Europe - Tentative Program

July 15–17, 2026 | Politecnico di Milano, Milan, Italy

DAY – 1, 15 July, 2025

08:00 - 09:00	Registrations
09:00-09:15	Opening, Welcome and Announcements by Prof. Antonino Famulari
	Session Chair:
	Plenary Talks
09:15-09:55	TBA Chiara Bertarelli, Politecnico Milano, Italy
09:55-10:35	Shaping Tomorrow's Electronics: Alternatives to Silicon Rodrigo Martins, FCT-NOVA, Portugal
10:35-11:15	On-surface Synthesis of Low-dimensional Graphene Nanomaterials Junfa Zhu, University of Science and Technology of China, China
11:15-11:45	Coffee Break
11:45-12:25	Nanocomposite Polymeric Membranes for H <sub>2</sub> Separation and CO <sub>2</sub> Capture (online) Tai-Shung Chung, National Taiwan University of Science and Technology, Taiwan
12:25-13:05	TBA Zhiming Wang, University of Electronic Science and Technology of China, China
13:05-14:30	Lunch Break
	Room A
	Session: Innovations in Materials Synthesis and Characterization
	Session Chair:
14:30-14:55	Keynote Talk: NMR Spectroscopy for Materials Science and Pharmaceuticals Franca Castiglione, Politecnico di Milano, Italy
14:55-15:20	Keynote Talk: Liquid Interface Deposition (LID) : A method for the production of thin films and heterostructures of two-dimensional solids Marek Szablewski, Durham University, UK
15:20-15:45	Keynote Talk: Gas-Phase Synthesis of Hybrid Nanoparticles Driven by Magnetron Sputtering Andrey Shukurov, Charles University, Czech
15:45-16:10	Keynote Talk: Intercalation Phase Engineering of Transition Metal Dichalcogenides Zhiyuan Zeng, City University of Hong Kong, Hong Kong
16:10-16:40	Coffee Break
16:40-17:00	Invited Talk: Plasma polymerisation of hydrocarbon precursors for the synthesis of nanofuels for proton-boron fusion Daniil Nikitin, Charles University, Czech
17:00-17:20	Invited Talk: Influence of Ag content of Polyethylene Glycol/Silver (PEG/Ag) nanocomposite thin films on AC conductivity Sahin Yakut, Istanbul University, Turkey
17:20-17:40	Invited Talk: EFFECT OF PRIMARY CARBIDES ON THE FATIGUE BEHAVIOR OF AIRCRAFT TURBINE BEARING STEELS V́ctor M. Alcántara Alza, Trujillo National University-Peru, Peru
17:40-18:45	Poster Presentations
19:00 Hrs Onwards	Networking Cocktails

	<b>Room B</b>
	<b>Session: Computational Materials Science</b>
	<b>Session Chair:</b>
<b>14:30-14:55</b>	<b>Keynote Talk: New structural properties and host-guest chemistry of M12L8 polycatenanes.</b> Javier Marti Rujas, Politecnico di Milano, Italy
<b>14:55-15:15</b>	<b>Invited Talk: In silico design and characterization of thiophene-based materials for organic electronics</b> Mose' Casalegno, Politecnico di Milano, Italy
<b>15:15-15:35</b>	<b>Invited Talk: Reconfigurable Electronic Structures in 2D vdW Heterostructures: Moiré, Stacking, and Strain via DFT/GW</b> Hung-Chung Hsueh, Tamkang University, Taiwan
<b>15:35-15:55</b>	<b>Invited Talk: Computational Optimization of Functional Materials for Energy and Environmental Applications</b> Abdullah Alghafis, Qassim University, Saudi Arabia
<b>15:55-16:15</b>	<b>Invited Talk: DFT insights into opto-electronic properties of near infra-red (I) absorber 1:1 perylene: TCNQ cocrystal towards photovoltaic application</b> Arkalekha Mandal, University of Oslo, Norway
<b>16:15-16:40</b>	<b>Coffee Break</b>
<b>16:40-17:00</b>	<b>Invited Talk: Computational Screening of High-Entropy Alloys for Hydrogen Storage Using HEAPS and MH Pro Programs (Online)</b> Afaf Ghais, University of Technology and Applied Sciences, Oman
<b>17:00-17:20</b>	<b>Invited Talk: Finite Element Modelling of Corrosion-Induced Mechanical Degradation and Durability Preservation in Coated Metallic Structures (Online)</b> Mohammed Albadrani, Qassim University, Saudi Arabia
<b>17:20-17:40</b>	<b>Invited Talk: From Elemental Powders to Industrial Forging: FEM-Assisted Processing and Microstructural Evolution of PM U720Li Nickel-Based Superalloy</b> Wiktoria Skonieczna, AGH University of Krakow, Poland
<b>17:40-18:45</b>	<b>Poster Presentations</b>
ME01	<b>Investigation of Quinoline Derivatives as Corrosion Inhibitors for AISI 430 Stainless Steel in Acidic Solution: Experimental and Theoretical Analysis</b> Bruno Hori Barboza, Universidade Estadual Paulista, Brazil
ME02	<b>Texture Evolution and Elastic Modulus Tailoring in Additively Manufactured Ti-42Nb Alloy</b> Joao Felipe Queiroz Rodrigues, University of Campinas, Brazil
ME03	<b>Additive Manufacturing of Hybrid Titanium Alloys by PBF-LB: Controlled Microstructural Gradients and Mechanical Response</b> Gilberto Vicente Prandi, University of Campinas, Brazil
ME04	<b>Tailoring Mechanical and Microstructural Properties of PBF-LB Ti-Nb-Ta Multilayer Composites for Biomedical Applications</b> Mariana Sizenando Lyrio, University of Campinas, Brazil
ME05	<b>Alpha phase nucleation in a metastable beta Ti-Nb-Fe-Sn alloy: intergranular and intragranular precipitation mechanisms</b> Leticia F Starck, University of Campinas, Brazil

ME06	<b>The use of waste materials from the wood industry in the form of sawdust from pedunculate oak (<i>Quercus robur</i>) in processes for removing metals from the aquatic environment</b>
	Tomasz Kalak, Poznań University of Economics and Business, Poznań, Poland
ME07	<b>Improving the electrical response of metal oxide-based sensors</b>
	Ricardo Henríquez Correa, Federico Santa Maria Technical University, Chile
ME08	<b>Structural and morphological tuning of CuO thin films for enhanced ethanol gas sensing</b>
	Leonardo Andres Vergara, Universidad Técnica Federico Santa María, Chile
ME09	<b>Growth of ultrathin NiCl<sub>2</sub> films on Au(111) studied by STM</b>
	Javiera Martinez, Universidad Técnica Federico Santa María, Chile
ME10	<b>Spintronic potential of Co/Cr<sub>2</sub>O<sub>3</sub> interfaces: oxidation and exchange bias effects</b>
	Fernando Alvarez Asencio, Universidad Técnica Federico Santa María, Chile
ME11	<b>Microstructural Evolution and Phase Transformation Pathways in Metastable β-Ti Alloys produced by EB-PBF</b>
	Matheus Valentim, University of Campinas, Brazil
ME12	<b>Controlled Electrochemical Surface Nanostructuring of Metallic Glasses: A Platform for Tailored Functional Properties</b>
	Viktorii Shtefan, Leibniz Institute for Solid State and Materials Research Dresden, Germany
ME13	<b>Influence of Reinforcement Type on the Mechanical Performance of Polyester Laminated Composites</b>
	Hugo Magalhães, University of Campinas, Brazil
ME14	<b>Development of Poly(4-vinylpyridine)-Wrapped Carbon Nanotubes with Metal Nanoparticle Decoration for High-Sensitivity Hydrogen Detection</b>
	Andrea Gonzalez Minaya, Massachusetts Institute of Technology, USA
ME15	<b>Bridging Data Science and Battery Engineering: Analytical Equations for LMB Capacity Retention via Machine Learning and Symbolic Regression</b>
	Min-Ho Kang, The Catholic University of Korea, Korea
ME16	<b>Surface Engineering of Si@void@C Yolk-Shell Anode via GQD Coating for Superior Capacity Retention in Li-Ion Batteries</b>
	Min-Ho Kang, The Catholic University of Korea, Korea
<b>19:00 Hrs Onwards</b>	<b>Networking Cocktails</b>
<b>DAY – 2, 16 July, 2026 - Room A</b>	
<b>Session: Advanced Functional Materials</b>	
<b>Session Chair:</b>	
<b>09:30-09:55</b>	<b>Keynote Talk: Sustainably Engineered N-Doped Carbon Dots: Structure–Property Modulation for Advanced Photoredox Applications and Light–Matter Interactions</b>
	Mariacecilia Pasini, Consiglio Nazionale delle Ricerche, Italy
<b>09:55-10:20</b>	<b>Keynote Talk: Cellulose: an ancient material for innovative applications</b>
	Paola Costanzo, University of Calabria, Italy
<b>10:20-10:45</b>	<b>Keynote Talk: Refractory high entropy alloys resistant to multicomponent aggressive gas mixtures</b>
	Zbigniew Grzesik, AGH University of Krakow, Poland

<b>10:45-11:05</b>	<b>Invited Talk: Hierarchically porous inorganic materials for efficient heterogeneous catalysis</b>
	Haifei Zhang, University of Liverpool, UK
<b>11:10-11:40</b>	<b>Coffee Break</b>
<b>11:40-12:00</b>	<b>Invited Talk: Multi-material L-PBF of Ti-42Nb/Ti-5553 layered composites for enhanced strength and ductility</b>
	Rubens Caram, University of Campinas, Brazil
<b>12:00-12:20</b>	<b>Invited Talk: Epitaxial Binary Fe-alloys Ferromagnets</b>
	Abdellah Lisfi, Morgan State University, USA
<b>12:20-12:50</b>	<b>Invited Talk: The Effect of Silicon Carbide Nanoparticles on the Plasticity and Microstructure of the PM Udimet 720LI Superalloy</b>
	Marek Wojtaszek, AGH University of Krakow, Poland
<b>12:50-13:10</b>	<b>Invited Talk: Title Mid-IR emission of Si-based microspheres: From vibrational emission to resonant mediated superplankian emission</b>
	Fernando Ramiro Manzano, Instituto de Tecnología Química, Spain
<b>13:10-14:30</b>	<b>Lunch Break</b>
	<b>Session Chair:</b>
<b>14:30-14:50</b>	<b>Invited Talk: Interplay Between Energy Transfer, Exciton Dissociation and Triplet-State Dynamics in Quasi-Two-Dimensional FAPbBr<sub>3</sub> Perovskites</b>
	Vidmantas Gulbinas, Center for Physical Sciences and Technology, Lithuania
<b>14:50-15:10</b>	<b>Invited Talk: Analytical Analysis of Thermal Buckling Behavior of New Functionally Graded Pipeline</b>
	Ahmed Draï, Mustapha Stambouli university of mascara, Algeria
<b>15:10-15:30</b>	<b>Invited Talk: Tunable 3D Hybrid Nanocomposites for Adaptive Electromagnetic Shielding and Advanced Optoelectronic Applications</b>
	Mirela Sucheá, Hellenic Mediterranean University, Greece
<b>15:30-15:45</b>	<b>Oral Talk: Effects of Silver (Ag) Doping on Dielectric and Structural Properties of Polyethylene Glycol (PEG) Nanocomposite Thin Films</b>
	Huseyin Furkan Eminoglu, Istanbul University, Turkey
<b>15:45-16:00</b>	<b>Oral Talk: TBA</b>
	TBA
<b>16:05-16:35</b>	<b>Coffee Break</b>
<b>16:35-16:55</b>	<b>Invited Talk: Advances of Hydrodynamic Cavitation from an Informatics Point of View (Online)</b>
	Levente Csoka, ELTE Eötvös Loránd University, Hungary
<b>16:55-17:15</b>	<b>Invited Talk: Evaluation of Mechanical Properties of Kenaf Core Fiber /UREA Formaldehyde Composites (Online)</b>
	Saad Assi Mutahser Al Jaberí, University of Technology and Applied Sciences - Suhar, Oman
<b>17:15-17:30</b>	<b>Oral Talk: Preliminary Correlation of LSCF Particle Size and Conformation Viability in freeze-casting Processing (online)</b>
	Natália Mata Oliveira Lima, University of Brasília, Brazil
<b>17:30-18:30</b>	<b>Poster Presentations</b>

**DAY – 2, 16 July, 2026 - Room B**

**Session: Materials for Energy and Environment Applications**

**Session Chair:**

09:30-09:55	<b>Keynote Talk: Re-using wastes to improve asphalts in road pavements</b> Pietro Calandra, National Research Council, Italy
09:55-10:20	<b>Keynote Talk: Supramolecular Self-Assembly of Fullerenes: Zero to Higher Dimensions (Online)</b> SHRESTHA Lok Kumar, National Institute for Materials Science, Japan
10:20-10:40	<b>Invited Talk: Controlling Ultrafast Photonic-Plasmonic Coupling in a Hybrid Platform for Biosensing Applications</b> Tersilla Virgili, IFN-CNR, Italy
10:40-11:00	<b>Invited Talk: Advanced adsorbents for water remediation and critical raw materials recovery</b> Amerigo Beneduci, University of Calabria, Italy
11:00-11:40	<b>Coffee Break</b>
11:40-12:00	<b>Invited Talk: Sustainable Wastewater Treatment: Using Printed Circuit Boards as Catalysts in Fenton-like Processes</b> Riccardo Ciciriello, Université Marie et Louis Pasteur, France
12:00-12:20	<b>Invited Talk: Cyclodextrin-based materials for organic load removal present in polycontaminated effluents</b> Zakarea Elaissaoui, Université Marie et Louis Pasteur, France
12:20-12:40	<b>Invited Talk: APTES-Functionalized Kaolin–MgAl LDH Composite for Reactive Black 5 Adsorption</b> Stavros Pouloupoulos, Nazarbayev University, Kazakhstan
12:40-13:00	<b>Invited Talk: TBA</b> TBA
13:00-14:30	<b>Lunch Break</b>
<b>Session Chair:</b>	
14:30-14:50	<b>Invited Talk: TBA</b> TBA
14:50-15:05	<b>Oral Talk: NiO<sub>x</sub> and CuO<sub>x</sub> Thin Films Hole Transport Layers for Perovskite Solar Cells</b> Benjamin Atala Niedmann, Universidad Técnica Federico Santa María, Chile
15:05-15:20	<b>Oral Talk: Biomass Nanoarchitectonics: Sustainable Porous Carbon Materials for Energy Storage Applications (Online)</b> Aabha PURI, National Institute for Materials Science, Japan
15:20-15:35	<b>Oral Talk: Nanoarchitectonics of Fullerene-derived Carbon: Cavity Engineering in Fullerene Self-assembly for Ammonium-ion Storage (Online)</b> Sabina SHAHI, National Institute for Materials Science, Japan
15:35-15:50	<b>Oral Talk: High-Performance Waste-to-Energy Conversion Using PVDF-TrFE Flexible Piezoelectric Nanogenerators Embedded with Engineered BCZT@CuFe<sub>2</sub>O<sub>4</sub> Structures</b> Chaymae Bahloul, Mohammed VI Polytechnic University, Morocco
15:50-16:05	<b>Oral Talk: Effect of glass fiber and mineral filler reinforcement on the dielectric relaxation and structural dynamics of PA6 hybrid composites</b> Sevim Alkan, Istanbul University, Turkey
16:05-16:35	<b>Coffee Break</b>
<b>Session: Innovations in Materials Synthesis and Characterization</b>	
16:35-16:50	<b>Oral Talk: Colloidal Processing of Hydroxyapatite-Based Bioactive Ceramics Derived from Phosphate Rock for Bone Regeneration Applications</b> Sara Mercedes Barroso Pinzon, Universidad Nacional de Colombia, Colombia

<b>16:50-17:05</b>	<b>Oral Talk: Computational Reactivity Strategies Applied to Fullerene Derivatives in the Stabilisation of Hybrid Perovskite-based Solar Cells</b>
	Bruno Hori Barboza, Universidade Estadual Paulista, France
<b>17:05-17:20</b>	<b>Oral Talk: Oxygen vacancy triggered electron traps and observation of giant dielectric constant in hot-pressed perfectly dense calcium manganese oxide ceramics</b>
	Megha Pant, University of Delhi, India
<b>17:20-17:35</b>	<b>Oral Talk: TBA</b>
	TBA
<b>17:30-18:30</b>	<b>Poster Presentations</b>
ME01	<b>Nanosized Silicon Confined in 3D Porous MoS<sub>2</sub> Frames for High Capacity and Cycling Stability in Lithium-Ion Battery</b>
	Min-Ho Kang, The Catholic University of Korea, Korea
ME02	<b>Uniform Carbon-Coated SiO<sub>x</sub> anodes via PDDA-Assisted RF Gel Assembly and Magnesiothermic Reduction</b>
	Min-Ho Kang, The Catholic University of Korea, Korea
ME03	<b>Molybdenum Disulfide for Battery Applications</b>
	Hae Kyung Jeong, Daegu University, Korea
ME04	<b>Core-Controlled Assembly Mechanisms of Virus Like Particles</b>
	Monica Enculescu, National Institute of Materials Physics, Romania
ME05	<b>Developed a multifunctional local drug delivery system based on zinc-magnesium layered hydroxide nanoparticles (Zn-Mg LH NPs) loaded with doxycycline</b>
	Catarina Ferreira dos Santos, Instituto Politécnico de Setúbal, Portugal
ME06	<b>Enhancing cardiovascular risk prediction with biomarkers, genetics, socioeconomic status, and machine learning</b>
	Janvi NMN Garg, ATLAS Research Program, USA
ME07	<b>Predictors of Accelerated Progression in Parkinson's Disease Under Dopaminergic Therapy: A Systematic Review and Meta-Analysis</b>
	Janvi NMN Garg, ATLAS Research Program, USA
ME08	<b>Design Of an Actuator for Linear Displacement by Shape Memory Alloy</b>
	Chi Hsiang Pan, National Chin-Yi university of technology, Taiwan
ME09	<b>Martensitic transformation influence on crack behaviour in beta metastable Ti-5553 alloy</b>
	Carlos Samuel Alves da Silva, University of Campinas, Brazil
ME10	<b>Detection of Acetone in Exhaled Breath Using Pt/Au Core-Shell Nanoparticle-Decorated ZIF-8/ZnO Films</b>
	Hessah Alharbi, Imam Abdulrahman Bin Faisal University, Saudi Arabia
ME11	<b>Development of Biadsorbents Functionalized with Essential Oils for the Removal of Hydrocarbons from Petroleum Effluents</b>
	Paulo Mateus Reboucas de Oliveira, IFCE, Brazil
ME12	<b>The Psychology on Web Design: A Case Study about the Contemporary Challenges between Neuroscience and Technology</b>
	Pedro Caua Galdino Lima, Instituto Federal de Ciência e Tecnologia do Ceará, Brazil
ME13	<b>Enhanced manganese uptake by innovative lignocellulosic materials</b>
	Gabriel Grzymisky, Université Marie et Louis Pasteur, France
ME14	<b>Laser-Based Nanostructured Photonic Polymer Sensors Based on ZnO/PMMA Nanocomposites</b>
	Haitham Al-Tameemi, University of Basrah, Basrah, Iraq

ME15	<b>Laser-Assisted Nanostructured rGO/PVA Polymer Materials for Energy Applications</b>
	Maha Al-Hamadani, University of Basrah, Basrah, Iraq
ME16	<b>TBA</b>
	TBA
ME17	<b>TBA</b>
	TBA
<b>DAY – 3, 17 July, 2026 - Room A</b>	
<b>Session: Nanostructured Materials</b>	
<b>Session Chair:</b>	
<b>09:30-09:55</b>	<b>Keynote Talk: Fifty Years of Goldene and a Gold Rush for Silicene and Further Xenex</b>
	LE LAY Guy, Aix-Marseille University, France
<b>09:55-10:15</b>	<b>Invited Talk: Multiscale Design of CNT-Based Carbon Aerogels for Enhanced Strength and Toughness</b>
	Fuhua Xue, Harbin Institute of Technology, China
<b>10:15-10:35</b>	<b>Invited Talk: Effect of Benzoyl Peroxide on the Viscoelastic and Rheological Properties of LDPE Produced via Reactive Extrusion</b>
	Nusret Kaya, İzmir Katip Çelebi University, Turkey
<b>10:35-10:55</b>	<b>Invited Talk: Polyester Hybrid Composites with Ceramic and Natural Fillers: Mechanical Performance and Thermal Behavior</b>
	Merve Karaman, İzmir Katip Çelebi University, Turkey
<b>10:55-11:30</b>	<b>Coffee Break</b>
<b>Session Chair:</b>	
<b>11:30-11:50</b>	<b>Invited Talk: Nanotubes and Polymer Composites with Applications in Wastewater Treatment</b>
	Monica Enculescu, National Institute of Materials Physics, Romania
<b>11:50-12:10</b>	<b>Invited Talk: TBA</b>
	TBA
<b>12:10-12:25</b>	<b>Oral Talk: Magnetite-Functionalized Pectin–Chitosan Hydrogels for Hyperthermia Applications in Breast Cancer Therapy</b>
	Isabel Aguilar, Instituto Politécnico Nacional, Mexico
<b>12:25-12:40</b>	<b>Oral Talk: TBA</b>
	TBA
<b>12:40-12:55</b>	<b>Oral Talk: TBA</b>
	TBA
<b>12:55-13:00</b>	<b>Closing</b>
<b>DAY – 3, 17 July, 2026 - Room B</b>	
<b>Session: Biomaterials and Biomedical Applications</b>	
<b>Session Chair:</b>	
<b>09:30-09:50</b>	<b>Invited Talk: pH-Thermo Dual-Responsive Polymeric Nanoparticles for Women’s Health: Dual Action Against Cervical and Ovarian Cancer Cells</b>
	Filippo Rossi, Politecnico di Milano, Italy

<b>09:50-10:10</b>	<b>Invited Talk: Biopolymers and Essential Oils: a Perfect Combination for the Development of Biocompatible Nanosystems and Materials</b> Anastasia Detsi, National Technical University of Athens, Greece
<b>10:10-10:30</b>	<b>Invited Talk: 3D Bioprinting of a Cardiac Patch Using Decellularized Bovine Pericardium, Silk Fibroin, and Gold Nanoparticles</b> Yuksel Cetin, TÜBİTAK Marmara Research Center, Turkey
<b>10:30-10:50</b>	<b>Invited Talk: Nanosystems Encapsulating Essential Oils of Aromatic Plants for the Control of Tetranychus urticae and Tuta absoluta</b> Loanna Pitterou, National Technical University of Athens, Greece
<b>10:50-11:05</b>	<b>Oral Talk: Dy3+-Activated BaYAl3O7 under UV Excitation: A Promising Phosphor for Therapeutic Functional Composites</b> Aabha Pardhi, National Institute of Technology Warangal, India
<b>11:05-11:30</b>	<b>Coffee Break</b>
	<b>Session Chair:</b>
<b>11:30-11:45</b>	<b>Oral Talk: Real-world Performance of AI for Diabetic Retinopathy Screening</b> Rithvik Inamapudi, ATLAS Research Program, USA
<b>11:45-12:05</b>	<b>Invited Talk: Enhancing Cardiovascular Risk Prediction with Biomarkers, Genetics, Socioeconomic Status, and Machine Learning</b> Arjun Paunikar, ATLAS Research Program, USA
<b>12:05-12:25</b>	<b>Invited Talk: AI-Assisted Diagnosis, Access, and Equity in Squamous Cell Carcinoma</b> Siddarth Mothukuri, ATLAS Research Program, USA
<b>12:25-12:40</b>	<b>Oral Talk: Tracking Inflammation Markers Prevents Early Death and Complications in Lung Cancer Immunotherapy</b> Shivam Loyalka, ATLAS Research Program, USA
<b>12:40-12:55</b>	<b>Oral Talk: TBA</b> TBA
<b>12:55-13:00</b>	<b>Closing</b>