

10<sup>TH</sup> EDITION OF  
**WORLD NANOTECHNOLOGY  
CONFERENCE &**  
8<sup>TH</sup> EDITION OF INTERNATIONAL CONFERENCE ON  
**MATERIALS SCIENCE  
AND ENGINEERING**

**10-12, MARCH, 2025**

**ROME, ITALY**



**IN-PERSON:**

NH Villa Carpegna, Via Pio IV,  
6, 00165 Roma RM, Italy



**VIRTUAL:**

Central European Time Zone

(IN-PERSON)

<b>DAY 01</b>	<b>Monday</b>	<b>08:00-08:50</b>	Registrations	<b>MAR 10</b>
		<b>08:50-09:00</b>	Opening Ceremony and Introduction	
		<b>09:00-11:00</b>	In-person Keynote Presentations	
		<b>11:30-16:00</b>	In-person Oral Presentations	
		<b>16:30-17:00</b>	In-person Poster Presentations	
		<b>11:00-11:30-Coffee Break</b>		

(IN-PERSON)

<b>DAY 02</b>	<b>Tuesday</b>	<b>08:50-09:00</b>	Opening Note and Introduction	<b>MAR 11</b>
		<b>09:00-10:20</b>	In-person Keynote Presentations	
		<b>10:20-17:30</b>	In-person Oral Presentations	
		<b>11:00-11:30-Coffee Break</b>		

(VIRTUAL SESSION-ROOM 01)

<b>DAY 03</b>	<b>Wednesday</b>	<b>08:30-09:00</b>	AV Check	<b>MAR 12</b>
		<b>09:00-09:40</b>	Virtual Keynote Presentation	
		<b>09:40-13:00</b>	Virtual Oral Presentations	
		<b>13:00-13:20</b>	Virtual Poster Presentations	
		<b>13:20-15:20</b>	Virtual Keynote Presentations	
		<b>15:20-16:20</b>	Virtual Oral Presentations	

(VIRTUAL SESSION-ROOM 02)

<b>DAY 03</b>	<b>Wednesday</b>	<b>08:30-09:00</b>	AV Check	<b>MAR 12</b>
		<b>09:00-09:40</b>	Virtual Keynote Presentation	
		<b>09:40-12:40</b>	Virtual Oral Presentations	
		<b>12:40-13:20</b>	Virtual Keynote Presentation	
		<b>13:20-17:20</b>	Virtual Oral Presentations	

### Important Note

- The conference follows Central European Time (CET) for both In-Person sessions and for Virtual sessions.
- When the program refers to “Local Timings” it means that the timing mentioned is based on the time zone of the presenter’s country.
- In-person presentations will take place in the **Leonardo A Room@NH Villa Carpegna** and Virtual presentations will take place in Zoom meetings.
- Please remain accessible in the hall or on Zoom throughout the day as there could be minor program adjustments due to technical issues or presenter no-shows.

**Moderator:** Vesna Lazic,  
Vinca Institute of Nuclear Sciences, Serbia

**Chair:** Stanislaw Dzwigaj,  
Sorbonne University, France

CET(Central European Time)

In-person	09:00-09:40	<b>Keynote Presentations</b>
	<b>Stanislaw Dzwigaj, Sorbonne University, France</b>	
	Title: Application of metal single-site zeolite catalysts in heterogeneous catalysis	
In-person	09:40-10:20	
	<b>Antonio Iliceto, ETIP SNET, Italy</b>	
	Title: How the impact of scarce/critical materials can influence the energy transition	
In-person	10:20-11:00	
	<b>David Chapelle, Université Marie et Louis Pasteur, CNRS, Institut FEMTO-ST, France</b>	
	Title: Investigating efficiency and environmental impact of type 4 hydrogen tank for heavy mobility	
11:00-11:30   Coffee Break @Foyer		
In-person	11:30-11:50	<b>Oral Presentations</b>
	<b>Pavel Lejček, Institute of Physics of the Czech Academy of Sciences, Czech Republic</b>	
	Title: Deformation and fracture behavior of Ag-based metal-matrix composites	
In-person	11:50-12:10	
	<b>Bun Tsuchiya, Meijo University, Japan</b>	
	Title: Dynamic analysis of lithium ion transfer at electrode/solid electrolyte interfaces in all-solid-state lithium ion batteries under charging condition using ERD technique	
In-person	12:10-12:30	
	<b>Amra Mesković, University of Stuttgart, Germany</b>	
	Title: Biomass-enhanced lightweight concrete for sustainable construction advancing towards carbon neutrality in the built environment	
In-person	12:30-12:50	
	<b>Tongyu Xu, University of Stuttgart, Germany</b>	
	Title: The application and impact of aerogels in mineralized foams	
12:50-14:00   Lunch @Restaurant		
In-person	14:00-14:20	
	<b>Raoux Nicolas, DRII, IPSA and LaMé, INSA CVL, France</b>	
	Title: Effect of agglomeration on the elastic properties of PLA/CNT nanocomposites: Numerical approach	
In-person	14:20-14:40	
	<b>Antonio Pantano, University of Palermo, Italy</b>	
	Title: Impact of nanoparticles on the mechanical properties of natural fiber biocomposites	

CET(Central European Time)

In-person 14:40-15:00

**Antonio Pantano, University of Palermo, Italy**

Title: Non-destructive evaluation technique for assessing nanoparticle dispersion in composite materials

In-person 15:00-15:20

**Wajid Ali Shah, Hiroshima Univeristy, Japan**Title: Optimizing thermodynamic properties and stability in AB<sub>2</sub> type hydrogen storage alloys: A study on Ti-Cr-Mn-Fe compositions

In-person 15:20-15:40

**Khairul Fadzli Samat, Universiti Teknikal Malaysia Melaka, Malaysia**

Title: Improvement of thermoelectric nanocomposite film through the inclusion of carbon nanofibers and graphene

In-person 15:40-16:00

**Vesna Lazic, Vinca Institute of Nuclear Sciences, Serbia**

Title: Visible-light-active interfacial charge transfer complex: Photocatalytic and antimicrobial properties

16:00-16:30 | Coffee Break @Foyer

In-person P1

(16:30-17:00) Poster Presentations @Foyer

**Bun Tsuchiya, Meijo University, Japan**Title: Charging/discharging rates dependences of Li<sub>+</sub> ion migration in all-solid-state Li<sub>+</sub> ion batteries

In-person P2

**Angelina Strakosova, Institute of Physics of the Czech Academy of Sciences, Czech Republic**

Title: From core-shell to composites: Exploring microstructure development in metastable Ag-Cu metal matrix composites prepared by bottom-up way

In-person P3

**Velin Nikolov, Institute of Mineralogy and Crystallography, Bulgarian Academy of Sciences, Bulgaria**

Title: Glass-ceramics for emission in the IR region

In-person P4

**Riya Thomas, Malmö University, Sweden**

Title: An insight on the stability of titanium-oxide based implant material

In-person P5

**Carla Cisternas Novoa, CIBAMA\_BIOREN, Universidad de La Frontera, Chile**

Title: Enhanced durability of antimicrobial activity in cotton textiles by L-Cysteine-Capped Copper Nanoparticles through laundering cycles

**Moderator:** Juan José Parajó,  
Universidade de Santiago de Compostela, Spain

**Chair:** Ghiath Monnet,  
EDF R&D-MMC, France

CET(Central European Time)

In-person	09:00-09:40	Keynote Presentations
<b>Ribal Georges Sabat, Royal Military College of Canada, Canada</b>		
Title: Photonic metasurfaces in azobenzene materials		
In-person	09:40-10:20	
<b>Ghiath Monnet, EDF R&amp;D-MMC, France</b>		
Title: Strain localization in austenitic stainless steels studied by atom force microscope		
In-person	10:20-10:40	Oral Presentations
<b>Sravan Nayeka Gaikwad, Gulbarga University, India</b>		
Title: Magnetohydrodynamic convective instability in binary nanofluids with thermodiffusion for water (H <sub>2</sub> O) – Lithium Bromide (LiBr) absorption refrigeration system		
In-person	10:40-11:00	
<b>Avinash Prabhakarrao Ingle, Dr. Panjabrao Deshmukh Agricultural University, India</b>		
Title: Development of sulphonic acid-functionalized nanocatalyst and its application in the pre-treatment of sugarcane bagasse		
11:00-11:30   Coffee Break @Foyer		
In-person	11:30-11:50	
<b>Juan José Parajó, Universidade de Santiago de Compostela, Spain</b>		
Title: Exploring ionic liquids: A pathway to sustainable energy storage		
In-person	11:50-12:10	
<b>Horng-Yi Chang, National Taiwan Ocean University, Taiwan</b>		
Title: Base metals doped ceria for bifunctional oxygen/hydrogen evolution reaction		
In-person	12:10-12:30	
<b>Bruno Ribeiro, IMDEA Materials Institute, Spain</b>		
Title: Metals against Leishmaniasis: Unlocking the potential of biodegradable metal nanoparticles against parasitic diseases		
In-person	12:30-12:50	
<b>Narcisse Malanda, Marien Ngouabi University, Congo</b>		
Title: Interactions between clay soil and sugar cane molasses		
12:50-14:00   Lunch @Restaurant		
In-person	14:00-14:20	
<b>Elizaveta Bogacheva, St. Petersburg State Institute of Technology, Russian Federation</b>		
Title: Study of adsorption properties of magnetic few-layer graphene		

CET(Central European Time)

In-person 14:20-14:40

**Anete Meija, Latvia University of Life Sciences and Technologies, Latvia**

Title: Gluability of the thermally modified aspen, birch, and poplar rotary cut veneers with suberinic acids adhesive

In-person 14:40-15:00

**Hadir N. Abuwarda, Islamic University of Gaza (IUG), Palestine**

Title: Metal doped CuS nanoparticles as photothermal therapeutic approach against HeLa cancer cells

In-person 15:00-15:20

**Prashant Sutkar, NES Science College, India**

Title: Flow and heat transfer in micropolar fluid stuffed between viscous fluids with magnetohydrodynamic effect

In-person 15:20-15:40

**Jehan Mahmood Al-Zehhawi, Koya University, Iraq****Zulfa Jalil Khudadad, Koya University, Iraq****Aya Bakhtyar Shawkat, Koya University, Iraq**

Title: A failure modes and effects analysis approach to CCS risk management

In-person 15:40-16:00

**Xin Zhang, Inner Mongolia University of Technology, China**Title: Fe doped MoS<sub>2</sub> nanozymes for sensitive determination of H<sub>2</sub>O<sub>2</sub> in milk

16:00-16:30 | Coffee Break @Foyer

In-person 16:30-16:50

**Zihan Guo, Inner Mongolia University of Technology, China**

Title: VNQDs anchored in N-doped porous carbon with pseudocapacitive behaviour for fast charge and discharge lithium-ion batteries

In-person 16:50-17:10

**Yanfang Gao, Inner Mongolia University of Technology, China**

Title: Melamine-derived high-graphite carbon hollow tubular Fe-N/C catalyzed alkaline oxygen reduction reaction

In-person 17:10-17:30

**Maxwell Thatyana, University of South Africa, South Africa**

Title: Synthesis of magnetic cellulose nanocrystals derived from maize waste for the adsorptive removal of lead (Pb) from wastewater samples

**Moderator:** Vuppula Prasanna,  
Osmania University, India

	CET	Local Timings	
Virtual	09:00-09:40	11:00-11:40	<b>Keynote Presentation</b>
	<b>Evgeny Grigoryev, Merzhanov Institute of Structural Macrokinetics and Materials Science Russian Academy of Sciences (ISMAN), Russian Federation</b>		
	Title: Features of high-voltage consolidation of powder materials		
Virtual	09:40-10:00	09:40-10:00	<b>Oral Presentations</b>
	<b>Behzad Sadeghi, The Erich Schmid Institute of Materials Science (ESI) of the Austrian Academy of Sciences, Austria</b>		
	Title: How hybrid reinforcing of nanocarbons strongly affects the balance between strength and ductility in aluminum matrix composites		
Virtual	10:00-10:20	18:00-18:20	
	<b>Hiroyuki Takeno, Gunma University, Japan</b>		
	Title: Fracture behavior and biocompatibility of cellulose nanofiber-composite hydrogels cross-linked with borax		
Virtual	10:20-10:40	12:20-12:40	
	<b>Andrey V. Shobukhov, Shenzhen MSU-BIT University, Russian Federation</b>		
	Title: Modelling of the multi-component concentration-dependent diffusion		
Virtual	10:40-11:00	15:10-15:30	
	<b>Sujit Kumar Bandyopadhyay, Variable Energy Cyclotron Centre, India</b>		
	Title: Role of d electrons in multifunctional materials		
Virtual	11:00-11:20	15:30-15:50	
	<b>Tanimki Chandra Sekhar Rao, Bapatla Engineering College, India</b>		
	Title: Hybrid discarded tyre rubber and recycled steel fibers composites for enhanced strength and vibration damping for cement concrete railway sleepers		
Virtual	11:20-11:40	13:20-13:40	
	<b>Valyaev Alexander, Russian Academy of Sciences, Russian Federation</b>		
	Title: Applications of our LitAr material for treatment of various diseases		
Virtual	11:40-12:00	14:10-14:30	
	<b>Mohammad Ali Foyouzat, Sharif University of Technology, Iran (Islamic Republic of)</b>		
	Title: A semi-analytical solution for the dynamic analysis of a rectangular viscoelastic plate subjected to a moving inertial load		
Virtual	12:00-12:20	14:30-14:50	
	<b>Shahab Ahmadi Seyedkhani, Sharif University of Technology, Islamic Republic of Iran</b>		
	Title: Enhanced cell-electrode interactions via Poly(3,4-ethylenedioxythiophene)-Polydopamine (PEDOT-PDA) neural interfaces for next-generation BCIs		

	CET	Local Timings	
Virtual	12:20-12:40	13:20-13:40	
<b>Mina Wassef Girgiss Nicola, National Research Centre, Egypt</b>			
Title: Diabetes Mellitus and nanotechnology			
Virtual	12:40-13:00	19:40-20:00	
<b>Vladimir Chigrinov, Hong Kong University of Science and Technology, Hong Kong</b>			
Title: Azodye photoaligned nanolayers for liquid crystal devices			
Virtual	13:00-13:10	15:00-15:10	Poster Presentations
<b>Faisal Bin Salem, King Saud University, Saudi Arabia</b>			
Title: Degradation of environmentally-friendly stabilized HDPE under accelerated weathering conditions			
Virtual	13:10-13:20	13:10-13:20	
<b>Magdalena Młynarczyk, National Research Institute, Poland</b>			
Title: Degradation of selected fibers as a function of maintenance cycles			
Virtual	13:20-14:00	09:20-10:00	Keynote Presentations
<b>Paulo Cesar De Morais, Catholic University of Brasilia, Brazil</b>			
Title: Exploring graphene oxide nanocomposites in cancer therapy			
Virtual	14:00-14:40	21:00-21:40	
<b>Thomas J Webster, Hebei University of Technology, China</b>			
Title: Recent advances in nanomedicine: Sensors, implants, artificial intelligence, saving the environment, human studies and more			
Virtual	14:40-15:20	09:40-10:20	
<b>Harry E. Ruda, University of Toronto, Canada</b>			
Title: Harnessing the unique transport properties of InAs nanowires for single molecule level sensing			
Virtual	15:20-15:40	19:50-20:10	Oral Presentations
<b>Vuppula Prasanna, Osmania University, India</b>			
Title: Developments in non-destructive testing of ceramic metal matrix composites for aerospace and defence applications			
Virtual	15:40-16:00	20:10-20:30	
<b>H. Sivaram, Rajalakshmi Institute of Technology, India</b>			
<b>Sriram Raghavan, Rajalakshmi Institute of Technology, India</b>			
Title: Nickel-Zinc based nanomaterials for dielectric properties and antenna applications			
Virtual	16:00-16:20	16:00-16:20	
<b>Ireneusz Musiałek, Jan Kochanowski University, Poland</b>			
Title: Tests on ecological electrorheological fluid			



**Moderator:** Amreen Khan,  
Indian Institute of Technology Bombay, India

**Chair:** S.V.A.R.Sastry,  
Harcourt Butler Technical University, India

	CET	Local Timings	
	15:20-15:40	09:00-09:40 13:30-14:10	<b>Keynote Presentation</b>
			<b>S.V.A.R.Sastry, Harcourt Butler Technical University, India</b>
			Title: Hydrothermal synthesis of 2D nanoparticles for nano lubricant enhancement for reduced wear and enhanced efficiency
Virtual	09:40-10:00	16:40-17:00	<b>Oral Presentations</b>
			<b>Lung-Hao Hu, National Sun Yat-Sen University, Taiwan</b>
			Title: Spray-coating of cesium tungsten bronze for improved near-infrared shielding in green energy glass
Virtual	10:00-10:20	17:00-17:20	
			<b>Xun Yuan, Qingdao University of Science &amp; Technology, China</b>
			Title: Design of ultrasmall metal nanoclusters for disease theranostics
Virtual	10:20-10:40	10:20-10:40	
			<b>Daniel Wasilkowski, University of Silesia in Katowice, Poland</b>
			Title: Multi-threaded effects of metal nanoparticles on the structure and selected molecular processes in model Escherichia coli, Bacillus cereus and Staphylococcus epidermidis strains
Virtual	10:40-11:00	10:40-11:00	
			<b>Elisa De Luca, Institute of Nanotechnology of the National Research Council (CNR-Nanotec), Italy</b>
			Title: Catalytic nanozymes: Transformative tools for biomedical applications, therapeutics, and advanced microscopy
Virtual	11:00-11:20	13:00-13:20	
			<b>Anna A. Antsiferova, National Research Center Kurchatov Institute, Russia</b>
			Title: The real mechanism of therapeutic action of silver: To activate, not to kill
Virtual	11:20-11:40	13:20-13:40	
			<b>Osman Adiguzel, Firat University, Turkey</b>
			Title: Shape memory phenomena and nanocharacterization of reversibility in shape memory alloys
Virtual	11:40-12:00	16:10-16:30	
			<b>Dharmendra Kumar, Sanskaram University, India</b>
			Title: Banana starch nanoparticles for quercetin delivery: Formulation, characterization, and anti-cancer evaluation
Virtual	12:00-12:20	16:30-16:50	
			<b>Amreen Khan, Indian Institute of Technology Bombay, India</b>
			Title: Thin film-embedded lipid nanostructures optimized for multi-drug co-therapies

	CET	Local Timings	
Virtual	12:20-12:40	06:20-06:40	
<b>Frank Hagelberg, East Tennessee State University, United States</b>			
Title: Surface-enhanced stimulated Raman spectroscopy with squeezed photonic states			
Virtual	12:40-13:20	08:40-09:20	Keynote Presentation
<b>Paulo Cesar De Morais, Catholic University of Brasilia, Brazil</b>			
Title: Using CuO polycrystalline nanofilms as sensor for small organic molecules			
Virtual	13:20-13:40	13:20-13:40	Oral Presentations
<b>Parisa Naghadian Moghaddam, Alexander Dubček University of Trenčín, Slovakia</b>			
Title: Improving the corrosion resistance of AISI 304 stainless steel through sol-gel derived MTES/ Polysilazane hybrid composite coatings			
Virtual	13:40-14:00	18:10-18:30	
<b>Lovely Ranjita, AKS University, India</b>			
Title: Nanocomposite gel polymer electrolytes: Benefic yet malefic			
Virtual	14:00-14:20	21:00-21:20	
<b>Adison Wong Choon Kit, Singapore Institute of Technology, Singapore</b>			
Title: Harnessing gold nanoparticle colour transitions for rapid microbial detection in fuels			
Virtual	14:20-14:40	16:50-17:10	
<b>Mahsa Heydari, Sharif University of Technology, Iran (Islamic Republic of)</b>			
Title: Simultaneous electrochemical determination of neurotransmitters using polypyrrole nanocomposites-modified titanium nitride electrodes			
Virtual	14:40-15:00	17:10-17:30	
<b>Fatemeh Bagri, Sharif University of Technology, Iran (Islamic Republic of)</b>			
Title: Innovative active packaging film from quince seed mucilage/alginate enriched with biosilica nanoparticles containing oak extract for prolonged meat shelf life			
Virtual	15:00-15:20	17:30-17:50	
<b>Shahab Ahmadi Seyedkhani, Sharif University of Technology, Islamic Republic of Iran</b>			
Title: Design and fabrication of nanostructured electrodes based on PEDOT for biological applications			
Virtual	15:20-15:40	17:50-18:10	
<b>Maryam Shamshiri, Shahid Beheshti University of Medical Sciences, Iran (Islamic Republic of)</b>			
Title: Direct growth CoNi LDH on CuO nanowires integrated with RGO electrode for manufacturing of wearable high performance asymmetric supercapacitor as power supply for wearable biosensors			
Virtual	15:40-16:00	11:40-12:00	
<b>Maria Cecilia Colautti, Defense University of Republic of Argentina, Argentina</b>			
Title: Microplastics and nanoplastics in Antarctica. Consideration their impact on ecosystems and human and fauna health			

	CET	Local Timings
Virtual	16:00-16:20	11:00-11:20
<b>Raymond Compton Jagessar, University of Guyana, Guyana</b>		
Title: Nanocarriers		
Virtual	16:20-16:40	11:20-11:40
<b>Raymond Compton Jagessar, University of Guyana, Guyana</b>		
Title: Nanosensors		
Virtual	16:40-17:00	07:40-08:00
<b>Kyu Shik Mun, Cedars-Sinai Medical Center, United States</b>		
Title: Development of 3D bioprinted lung airway model to study mucociliary clearance		
Virtual	17:00-17:20	08:00-08:20
<b>Sugirtha Krishnamurthy, Apple Inc, United States</b>		
Title: Engineering conducting polymer interfaces for enhanced organic photovoltaic performance		

*We wish to meet you again at our  
upcoming events*

9<sup>th</sup> Edition of the International Conference on  
**Materials Science and Engineering**  
March | Singapore | HYBRID EVENT  
<https://magnusconferences.com/materials-science/>

11<sup>th</sup> Edition of  
**World Nanotechnology Conference**  
March | Singapore | HYBRID EVENT  
<https://worldnanotechnologyconference.com/>

### **Questions? Contact**

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