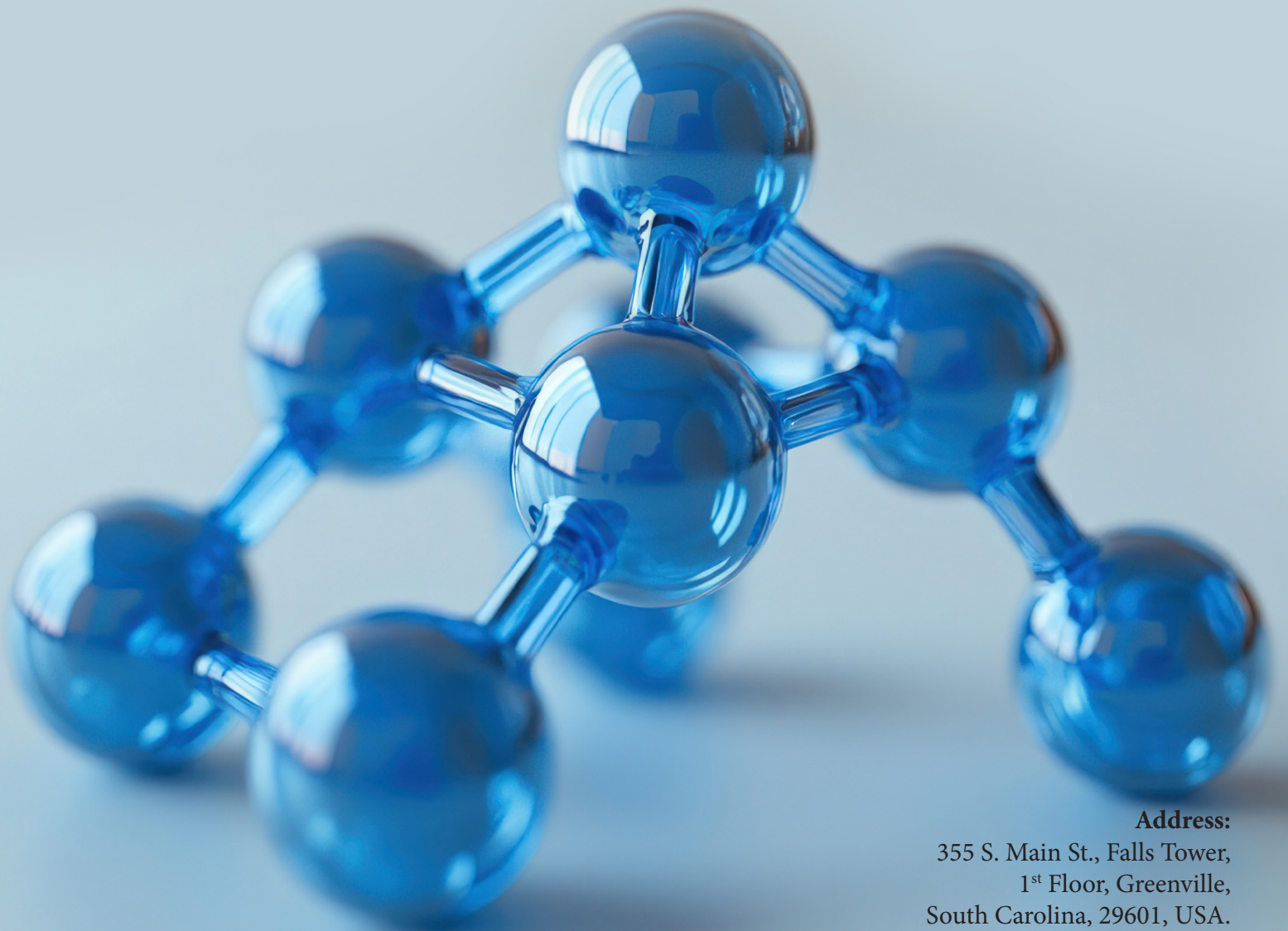


2nd European Congress on

MATERIALS SCIENCE AND ENGINEERING

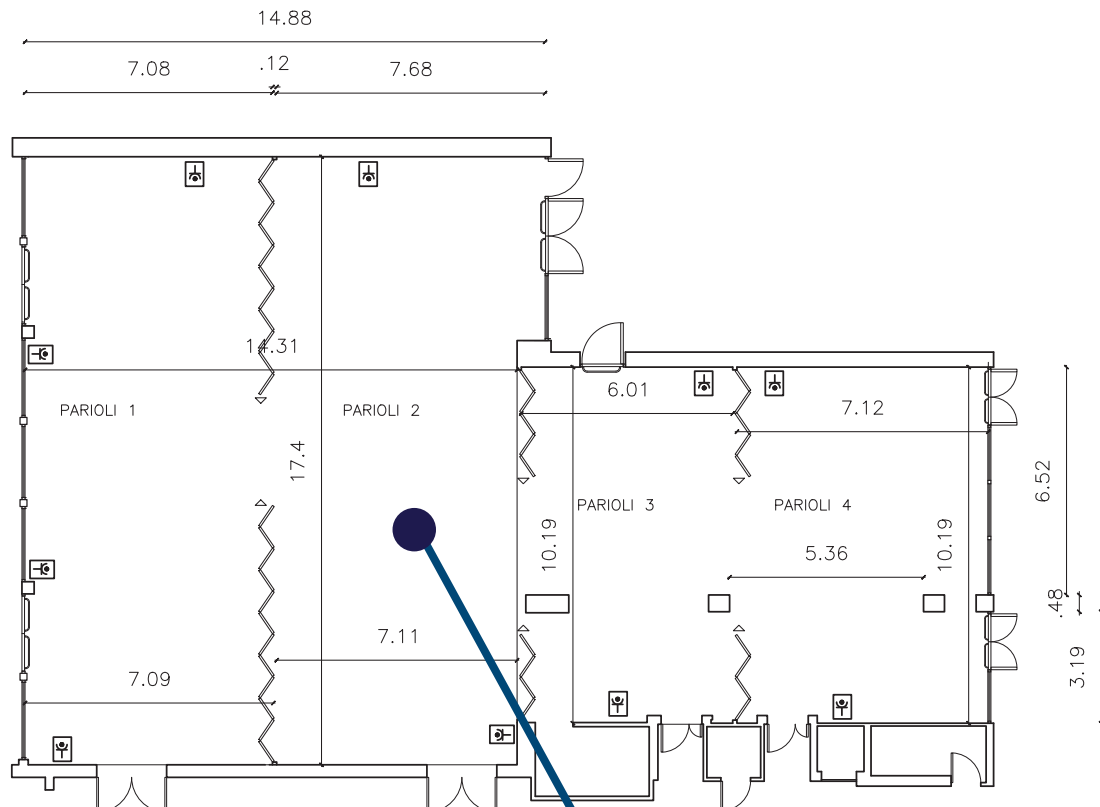
November 17-18, 2025 | **Rome, Italy**



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355 S. Main St., Falls Tower,
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Floor Map



Sala Parioli



#ConferenceHall - Parioli 2

Journal Collaboration



Characterization and Application of Nanomaterials

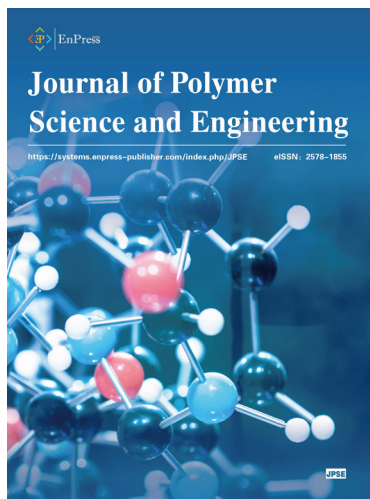
Characterization and Application of Nanomaterials (CAN, eISSN: 2578-1995) is an open-access peer-reviewed journal allowing maximum visibility of articles published in it as they are available to a wide, global audience. We are interested in the scientific topics from all fields of nano. CAN provides a forum to share scholarly practice to advance the use of nanomaterials in the context of scientific applications. Some examples of relevant topics are nanoparticle composites, nanoscale quantum physics, nanochemistry, nanomaterials, and energy applications. CAN publishes original research articles, review articles, editorials, case reports, brief commentaries, perspectives, etc.



Experimental and Theoretical Nanotechnology

Experimental and Theoretical Nanotechnology (ETN) abbreviated as Exp. Theo. Nanotechnology is a multidisciplinary peer-reviewed and open access journal. It includes specialized research papers, short communications, reviews and selected conference papers in special issues on the characterization, synthesis, processing, structure and properties of different principles and applications of nanotechnology with focus on advantageous achievements and applications for the specialists in engineering, chemistry, physics, materials science and medicine. ETN covers and publishes all aspects of fundamental and applied researches of experimental and theoretical nanoscale technology dealing with materials synthesis, processing, nanofabrication, nanoprobe, spectroscopy, properties, biological systems, nanostructures, nanoelectronics, nano-optics, nano-mechanics, nanodevices, nanobiotechnology, nanomedicine, nanotoxicology within the scope of the journal. ETN aims to acquire the recent and outstanding researches for the benefit of the human being.

Journal Collaboration



Journal of Polymer Science and Engineering

Journal of Polymer Science and Engineering Journal of Polymer Science and Engineering (JPSE, eISSN: 2578-1855) is a peer-reviewed journal dedicated to the rapid publication of fundamental research papers in all areas concerning polymerization techniques and recent advances of plastic engineering. JPSE solicits research articles covering a broad spectrum of ideas and concepts in polymer science, polymer engineering, and polymer technologies including those on biomaterials, polymer blends, energy conversion and storage, biodegradable polymers and green materials and green technologies. Polymer science and engineering is a strongly interdisciplinary field and papers published by the journal may span areas such as polymer physics, polymer processing and engineering of polymer-based materials and their applications. The journal is also relevant to areas such as, implantable devices, drug delivery systems, bio-nanotechnology and tissue engineering.



Industria Textila journal

Industria Textila journal Industria Textila journal is WOS/ISI Thomson Reuters indexed and is addressed to specialists in the textile sector - raw materials, spinning, weaving, knitting, chemical technology, clothing and related fields: laboratory apparatus and equipment for mechanical and chemical processing, chemicals and auxiliaries, computer aided design and computer aided manufacturing, management and marketing systems etc. Currently the journal is published in 6 issues / year, but the number and the quality of articles published - containing information about the textile field and the related fields - management, marketing, chemistry, leather – has increased from one year to another.

SCIENTIFIC PROGRAM

DAY 1 - Nov 17, 2025

Meeting Hall: Parioli 2

09.00 - 09.45 Registrations

09.45 - 10.00 Introduction

Moderator

Yalén Del Río-Jay, Institute of Regenerative Medicine and Biotherapies, France

Keynote Presentations

10.00 - 10.40

Title: Synthesis and Characterization of Bioactive Glass Material by Hydrothermal Assisted Sol Gel Method

Nermin Demirkol, Kocaeli University, Turkey

10.40 - 11.20

Title: Designing for The Invisible: Lessons from EMI and VC in Nanolabs

Erik Renkens, Deerns, The Netherlands

11.20 - 11.35

Networking and Refreshments @ Bar

11.35 - 12.15

Title: Dynamically Coupled Systems (DCSS): Vibration Absorbers and Energy Harvesters

Payam Soltani, Military Technological College, Oman

Oral Presentations

Session Chairs:

Nermin Demirkol, Kocaeli University, Turkey

Bettina Camin, Hochschule Bremerhaven, Germany

Sessions: Nanocatalysis | Biomaterials | Materials Science and Engineering | Nanotechnology

12.15 - 12.45

Title: Synthesis of Multi-Metallic Sub-Nanocatalysts using A Dendrimer Reactor

Kimihiya Yamamoto, Tokyo Institute of Technology, Japan

12.45 - 13.00

Group Photo

13.00 - 14.00

Lunch @ Seguimi

14.00 - 14.30

Title: Assessment of Novel Boron-Doped Mesoporous Bioactive Glass Nanoparticles Loaded Alginate Hydrogel in Dogs

Marwa Samir Naga, Alexandria University, Egypt

14.30 - 15.00

Title: From 2D to 3D: Advantages of 3D μ -Tomography for Analyzing Kirkendall Porosity using Ni/CMSX-type Diffusion Couples

Bettina Camin, Hochschule Bremerhaven, Germany

15.00 - 15.30	Title: Bioactivation of β -Ti ₁₂ Mo ₆ Zr ₂ Fe Alloy via Dip-Coating with Sr-Modified Bioactive Glass
Joao Henrique Lopes , Technological Institute of Aeronautics, Brazil	
15.30 - 16.00	Title: <i>In vivo</i> Biodistribution, Immune Modulation and Regenerative Potential of mRNA-Loaded Lipid Nanoparticles in Zebrafish
Yalén Del Río-Jay , Institute of Regenerative Medicine and Biotherapies, France	
16.00 - 16.30 Networking and Refreshments @ Bar	
Video Presentation	
VP-01	Title: Tool for Forming Regular Reliefs on Inner Cylindrical Surfaces Using the Method of Surface Plastic Deformation (SPD)
Aleksandr Valentinovich Markov , Technical University of Varna, Bulgaria	
E-Poster Presentation	
EP-01	Title: Mesalazine-Loaded in Chitosan-Alginate Nanoparticles Reduce the Inflammatory Response in an Immunocompetent Inflamed 3D Multi-layered Intestinal Model
Amanda Letícia Polli Silvestre , São Paulo State University, Brazil	

Day 1 Concludes Followed by Certificate Distribution

SCIENTIFIC PROGRAM

#DAY 2 - Nov 18, 2025

Meeting Hall: Parioli 2

Moderator

Yalén Del Río-Jay, Institute of Regenerative Medicine and Biotherapies, France

Keynote Presentations

10.00 - 10.40	Title: Analysis of Diffusion Processes and Microstructural Changes in A Material Pairing Consisting of Ni/Ni-Based Superalloy CMSX-4 Enabled by Diffusion Couple Technique
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Bettina Camin, Hochschule Bremerhaven, Germany

Oral Presentations

Sessions: Materials Science and Engineering | Nanobiotechnology | Environmental Nanotechnology | Materials Science and Engineering | Energy Materials | Nanomedicine | Nano Engineering and Nano Applications | Nano Robotics | Advanced Materials

10.40 - 11.10	Title: Comparative Analysis of the Cytotoxic and/or Antioxidant Activity of Green Synthesized CeO ₂ Nanoparticles and CeO ₂ Nanobiohybrids with Rosemary on Human Peripheral Blood Mononuclear Cells
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Luisa María Rendón Barros, University of Cauca, Colombia

11.10 - 11.40	Title: Clean, Green, and Precise: Reimagining Facility Processes
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Erik Renkens, Deerns, The Netherlands

11.40 - 11.55 Networking and Refreshments @ Bar

Poster Presentations

P-01	Title: <i>In vitro</i> and <i>Ex vivo</i> Biocompatibility, Biomolecular Interactions, and Characterization of Graphene Quantum Dots and its Glutathione Modified Variant for Qualitative Cell Imaging
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Marlin Pedrozo-Peñafiel, Pontifical Catholic University of Rio de Janeiro, Brazil

P-02	Title: Bio-Mimetic Synthesis of Biologically Active Nano-Cobalt Oxide Anchored Zinc Oxide Nanorods
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Omkar S Karvekar, Palacky University Olomouc, Czech Republic

P-03	Title: Electrochemical Synthesis of Nanomagnetite Modified with Biocompatible Surfactants
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Nino Makhaldiani, Georgian Technical University, Georgia

P-04	Title: Mg-Doped In ₂ O ₃ /Carbon Composite Anodes with Enhanced Reversibility for Li-Ion Batteries
Gurdit Singh , National Institute of Technology Kurukshetra, India	
P-05	Title: Comparative Analysis of the Cytotoxic and/or Antioxidant Activity of Green Synthesized CeO ₂ Nanoparticles and CeO ₂ Nanobiohybrids with Rosemary on Human Peripheral Blood Mononuclear Cells
Valentina Collo Salazar and Luisa María Rendón Barros , University of Cauca, Colombia	
P-06	Title: Moiré Atomic Force Sensors for Robust Nanoscale Sensing
Nan Deng , Technische Universität Ilmenau, Germany	
P-07	Title: Different Hypervalent Iodine Compounds Synthesized in the Presence of Triethylene Glycol Monomethyl Ether and Polyvinylpyrrolidone
Seyedeh Mohadeseh Hosseini , Institute for Advanced Studies in Basic Sciences (IASBS), Iran	

Day 2 Concludes Followed by Certificate Distribution and Lunch @ 13.00

VIRTUAL PROGRAM

#DAY 2 - Nov 18, 2025

British Summer Time (BST)

Sessions: Materials Science and Engineering | Nanobiotechnology | Environmental Nanotechnology | Materials Science and Engineering | Energy Materials | Nanomedicine | Nano Engineering and Nano Applications | Nano Robotics | Advanced Materials

Keynote Presentations

10.00 - 10.30 **Title:** Multi-Scale Small Particle Dynamics in Blocked Pipe Interface Materials by Improving Resolved CFD Simulation Methods

K Sun, Wuhan University of Science and Technology, China

10.30 - 11.00 **Title:** Incorporating Bioactive Glass Nanoparticles in Silk Fibroin/Bacterial Nanocellulose Composite Scaffolds Improves Their Biological and Osteogenic Properties for Bone Tissue Engineering Applications

Mohammadali Meskaraf-Asadabadi, Kermanshah University of Medical Sciences, Iran

11.00 - 11.30 **Title:** Role of d electrons in Multifunctional Materials

Sujit Kumar Bandyopadhyay, Variable Energy Cyclotron Centre, India

Oral Presentations

11.30 - 11.50 **Title:** Characterization and Evaluation of Green Synthesized Euphorbia Hirta L. Silver Nanoparticles Against Anti-Diabetic Activity and Protein Binding Study with Anti – Diabetic Drug

J Bagyalakshmi, Sri Ramakrishna Institute of Paramedical Sciences, India

11.50 - 12.10 **Title:** Adsorption of Rhodamine B Dye from Solution Using 3-((1-(4-((1H-Benzo[d]imidazol-2-yl) Amino) Phenyl) Ethylidene) Amino) Phenol (BIAPEHB)/ P(AA-co-AM) Composite

Maryam Batool, University of Sahiwal, Pakistan

12.10 - 12.30 **Title:** Eco-friendly Silver Nanoparticle Biosynthesis from Stevia rebaudiana and Elicitor-Driven Stevioside Glycoside Production in Acremonium sclerotigenum CBS 124.42 with Bioactivity Evaluation

Nishant, Birla Institute of Technology, India

12.30 - 12.50 **Title:** Use of Nanotechnology and Artificial Intelligence to Improve Predictive Lung Cancer Detection in People Over 60 Years of Age: A Systematic Literature Mapping

Adrián H Tozzi, Universidad Abierta Interamericana, Argentina

12.50 - 13.10 **Title:** Thermomechanical Processing of Metallic Materials: Simulation-Guided Pathways to Enhanced Microstructure and Performance

Eman Hassan El-Shenawy, Central Metallurgical R&D Institute, Egypt

13.10 - 13.30 Eye Relaxation	
13.30 - 13.50	Title: Biopolymer-Polymer Blend Electrolyte Membrane for High Energy Density Supercapacitor Applications
Achchhe Lal Saroj , Banaras Hindu University, India	
13.50 - 14.10	Title: Quercetin-Enhanced Bacterial Cellulose/Silk Fibroin Scaffolds for Bone Regeneration
Elham Ghanbari , Kermanshah University of Medical Sciences, Iran	
14.10 - 14.30	Title: BDNF-Loaded Amino Acid-Catecholamine Hybrid Nanoparticles as Curative Agents against Cognitive Decline in Alzheimer's Disease
Himanshu Sekhar Panda , Institute of Nano Science and Technology, India	
14.30 - 14.50	Title: Molecular Adsorbates at Solid-Liquid Interfaces Monitored by Electrochemical Scanning Tunneling Microscopy
Marek Nowicki , University of Wroclaw, Poland	
14.50 - 15.10	Title: Bioinspired Cu-Aspartate Complex as A Dual-Enzyme Mimicking System for Environmental and Bio-Sensing Applications
Annu Dagar , National Institute of Forensic Sciences, India	
15.10 - 15.30	Title: Controlling Nanochemistry Towards Emerging Nanophysics and Applications: Focus on Nano-Bioelectronics and Delivery of Light from The Excited State
A Guillermo Bracamonte , Universidad Nacional de Córdoba, Argentina	
15.30 - 15.50	Title: AI-Based Techniques for the Design, Fabrication and Evaluation of Nanorobots in Personalized Therapy
A V Vasanthi , Sarojini Naidu Vanita Pharmacy Maha Vidyalaya, India	
15.50 - 16.10	Title: Obstacles In the Recovery of Waste Heat in Steel Plants and Possible Remedies
Sudipta Sikdar , India	
16.10 - 16.30	Title: Recent Advances in Nanoformulations for Helminthiasis Treatment
João Paulo Figueiró Longo , Universidade de Brasília, Brazil	
Keynote Presentation	
16.30 - 17.00	Title: Prospective Investigation of Radiofrequency and Nanomaterials Synergism in Cancer Cells Viability
Paulo Cesar De Moraes , Catholic University of Brasilia, Brazil	

Day 2 Concludes Followed by Vote of Thanks

Note:

Bookmark the Dates

3rd European Congress on

MATERIALS SCIENCE AND ENGINEERING

October 05-06, 2026 | Lisbon, Portugal



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