

## 8<sup>th</sup> International Conference on Materials Science & Engineering

Day 1 - September 21, 2023

Meeting Hall: Rome

08:00-08:40 Registrations

08:40-09:00 Introduction

### Keynote Presentations

09:00-09:40 Title: Significance of structural Integrity Assessment for the Operational Safety of Structures

**Ljubica Milović**, University of Belgrade, Serbia

09:40-10:20 Title: Study of Electromagnetic Properties of Leaving Matter in Microwave and Millimeter Wave Range for Medicine and Biology

**Svetlana von Gratowski**, Russian Academy of Sciences, Russia

Group Photo (10:20-10:30)

Networking & Refreshments 10:30-10:45 @ Rome

### Oral Presentations

Session Chair **Svetlana von Gratowski**, Russian Academy of Sciences, Russia

Session Chair **Ljubica Milović**, University of Belgrade, Serbia

Sessions: Materials Science and Engineering | Soft Matter & Nanoscale Materials | Surface Science and Engineering | Renewable Energy Material | Mechanics of Materials and Structures | Structural Materials | Polymers & Biopolymers | Nano medicine

10:45- 11.15 Title: Strain-Induced Control of A Pillar Cavity-GaAs Single Quantum Dot Photon Source

**Inah Yeo**, Korea Science Academy of KAIST, South Korea

11.15 - 11.45 Title: Influence of Surface Characteristics on Cells Response in Turning of Biomedical Devices

**Maria Rosaria Saffioti**, University of Calabria, Italy

11.45 - 12.15 Title: High Temperature Wear Testing of Refractory Stainless Steel

**Giselle Ramírez**, Eurecat Technological Center of Catalonia, Spain

12.15 - 12.45 Title: Integrating Agri-Food and Construction Industries: Unlocking Synergistic Opportunities

**Margarida Soares**, Centro para a Valorização de Resíduos, Portugal

12.45 - 13.15 Title: Bio-Based High-Performance Cellulose Twine for Extended Horticultural Application Opportunities in the Paris Region

**Christoph Partes**, Cordenka GmbH & Co. KG, Germany

Lunch 13:15-14:00 @ Escale

14.00 - 14.30 Title: Investigation of Crystal Morphology and Orientation of P3HT:PTCA Blend Thin Films

**Pallavi Kumari**, Polish Academy of Sciences, Poland

14.30 - 15.00 Title: Coupling Isothermal Recrystallization and Preceding Cold wire-Drawn Deformation Effects on Crystallography of AISI 430F, a Ferritic/Ferromagnetic Stainless Steel: An Integrated Study Incorporating Magnetic, Mechanical, and Tribo-Corrosion Investigations

**Shahab Bazri**, Polytechnic University of Milan, Italy

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15.00 - 15.30	Title: The Influence of the Share of Glass Components on the Process of Crystallization of Amorphous Phases and the Functional Properties of Lime-Sand Materials Formed as a Result of Hydrothermal Treatment <b>Anna Stepien</b> , Kielce University of Technology, Poland
15.30 - 16.00	Title: Spark Plasma Sintering of Mg-3wt%Al-1wt%Zn Hybrid Nanocomposite: Effect of Sintering Temperature on Mechanical Properties <b>Ogunlakin Nasirudeen Olalekan</b> , King Fahd University of Petroleum and Minerals, Saudi Arabia
16.00 - 16.30	Title: Characterization of the Friction Stir Processed Dissimilar Aluminium Alloy Welded Joints <b>Sipokazi Mabuwa</b> , Cape Peninsula University of Technology, South Africa
Networking & Refreshments 16:30-17:00 @ Rome	
17.00 - 17.30	Title: Experimental and Numerical Attempt to Determine the Heat Generated During Dynamic Tensile Testing of TWIP Steels <b>Katarzyna Jasiak</b> , Wroclaw University of Science and Technology, Poland
17.30 - 18.00	Title: Designing Composite Pedestal – Metal Replacement <b>Vural ICLI</b> , Assan Hanil Otomotiv San. ve Tic., Turkey
18.00 - 18:30	Title: A Self-Cleaning Nanoparticle Hybrid Coating for Highly Efficient All-Day Passive Radiative Cooling <b>Haoyuan Cai</b> , Zhejiang University, China
Day 1 Concludes followed by Awards Ceremony	

## 8<sup>th</sup> International Conference on **Materials Science & Engineering**

Day 2- September 22, 2023

Meeting Hall: Rome

Keynote Presentations

09:00-09:40 Title: Metal Oxide Thin Film for High Performance Electrochemical Sensing Applications  
**Mahabubur Chowdhury**, Cape Peninsula University of Technology, South Africa

09:40-10:20 Title: Contribution of AI and Machine Learning in Advanced Material Characterization  
**David BASSIR**, University Paris-Saclay, France

Networking & Refreshments 10.20 - 10.45 @ Rome

Oral Presentations

Session Chair **Yasko Kodama**, Nuclear and Energy Research Institute, Brazil

Session Chair **Mahabubur Chowdhury**, Cape Peninsula University of Technology, South Africa

Sessions

Nanostructures and Nanofilms | Mechanics of Materials and Structures | Materials Science and Engineering | Structural Materials | Composite, Coating and Ceramic Materials | Computational Material Science | Biomedical Engineering | 3D printing & Additive manufacturing | Energy Materials and Sustainability | Nanotechnology and Nanomaterials | Advanced Energy Materials | Polymers & Biopolymers | Biomedical Engineering

10.45 - 11.15 Title: Radiation Induced Graft Polymerization (RIG) of Membranes for Reduction of Nuclear Waste Generated at Nuclear Fuel Production Process  
**Yasko Kodama**, Nuclear and Energy Research Institute, Brazil

11.15 - 11.45 Title: Combining Fictitious Stress Method and Displacement Discontinuity Method in Solving Crack Problems in Anisotropic Material  
**Bahattin Kımence**, Istanbul Technical University, Turkey

11.45 - 12.15 Title: The Use of Computer Tomography Method in the Analysis of the Microstructure of Materials Formed as a Result of Hydrothermal Treatment: Cellular Concretes  
**Ryszard Dachowski**, Kielce University of Technology, Poland

12.15 - 12.45 Title: Towards Efficient Recycling of Nd-Fe-B Permanent Magnets: A Sustainable Solution For the Recovery of Nd<sub>2</sub>Fe<sub>14</sub>B Grains  
**Amit Mishra**, Institute Jozef Stefan, Slovenia

12.45 - 13.15 Title: Fracture Studies of Bioinspired Helicoidal GFRP Composite Laminates  
**Shreya Rai**, Indian Institute of Technology Madras, India

Lunch 13:15 -14:15 @ Escale

14.15 - 14.45 Title: Advancing Biomedical Applications: Hardness And Wear Resistance Study of Zr-Based Bulk Metallic Glasses Compared to 316L SS and Ti<sub>6</sub>Al<sub>4</sub>V Alloy  
**Michał Biały**, Wrocław University of Science and Technology, Poland

14.45 - 15.15 Title: Development of Nanoparticle-Assisted Liquid Crystal Sensors for Dye Detection in Aqueous Environments  
**Selda Sezer**, Malatya Turgut Ozal University, Turkey

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15.15 - 15.45	Title: Stimuli-Responsive Porous Particle-Loaded Therapeutics <b>Clea CHESNEAU</b> , University of Paris - Est Créteil, France
15.45 - 16.15	Title: Investigation on the Flexural Performance of Additively Manufactured Re-Entrant Diamond Auxetic Metamaterial <b>Niranjan Chikkanna</b> , Indian Institute of Technology Madras, India
<b>Networking &amp; Refreshments 16.15 - 16.45 @ Rome</b>	
16.45 - 17.15	Title: Amorphous Oxide Coatings Limiting H <sub>2</sub> Permeation Through Polymer Membranes - Synthesis and Measurements <b>Natalia Kaczmarczyk</b> , Wrocław University of Science and Technology, Poland
17.15 - 17.45	Title: Tensile Test Analysis of 3D Printed Specimens with Varying Print Orientations and Infill Density <b>Thesan Appalsamy</b> , Council for Scientific and Industrial Research (CSIR), South Africa
17.45 - 18.15	Title: A Silicon Nitride ISFET-Based Immunosensor for Tumor Necrosis Factor-Alpha Detection in Saliva. A promising Tool for Heart Failure Monitoring <b>Hamdi Ben Halima</b> , Claude Bernard Lyon University, France
18.15 - 18.45	Title: Phyto-Compatible Photo-Crosslinkable Hydrogels for Plant Tissue Culture <b>Roya Rezanavaz</b> , Chemistry & Physics Research Group, Scion, New Zealand
<b>Poster Presentations</b>	
MSP001	Title: Increasing the Build Speed of Additively Manufactured 316L Under Limitations of the Process Window and the Build Geometry <b>Michael Berghaus</b> , FH Muenster, Germany
MSP002	Title: A Metallic-Skeleton Based Gas Diffusion Layer with Enhanced Triple-Phase Boundary for Highly Efficient CO <sub>2</sub> -To-Formate Electroreduction <b>Tengyi Liu</b> , Tohoku University, Japan
MSP003	Title: Investigating the Influence of Coatings for Geothermal Heat Exchangers <b>Arunima Bhuvanendran</b> , University of Leicester, UK
MSP004	Title: Application of the Chemical Modeling Code in the Quantitative Analysis of the Phase Structure of Plasters <b>Anna Stepien</b> , Kielce University of Technology, Poland
MSP005	Title: Immobilization of Amphiphilic Proteins on Poly-Hydroxybutyrate Particles and Application in Biodegradable Packaging <b>Roya Rezanavaz</b> , Chemistry & Physics Research Group, Scion, New Zealand
MSP006	Title: Improvement of Surface Roughness at Overhang Areas from Parts Made of 316L by Variation of Laser Beam Diameter and Laser Strategy <b>Michael Berghaus</b> , FH Muenster, Germany
MSP007	Title: Development of MgAlCrFeNi and MgAlCrNiV Alloys for Ni-MH Batteries <b>Gülhan Cakmak</b> , Muğla Sıtkı Koçman University, Turkey

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## E- Poster Presentation

MSEP001

Title: Dentistry and Orthopedics: Advancements in Long-Term Tracking of PLA Scaffolds for Guided Tissue Engineering with Up-Conversion Nanocrystals

**Rodrigo Alberto Osorio Arciniega**, National Autonomous University of Mexico, Mexico

## Day 2 Concludes

Panel Discussion - Awards & Closing Ceremony followed by Vote of Thanks



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### Virtual Presentations

Day 1 - September 21, 2023 BST

10.00 - 10.10 Introduction

#### Keynote Presentation

10.10 - 10.40 Title: Chiral FA Conjugated CdTe/CdS Quantum Dots for Selective Cancer Ablation  
**Guangmin Li**, Tianjin Chengjian University, China

10.40 - 11.20 Title: Antibody-Proteases as Translational Tools of the Newest Generation to be Applied for Biodesign and Bioengineering to Get Precision and Personalized Healthcare Services Re-Armed  
**Sergey Suchkov**, Institute for Biotechnology & Global Health of RosBioTech and A.I., Russia

#### Oral Presentations

11.20 - 11.50 Title: Towards Self-Powered Pavement Skid Resistance Monitoring via Textile-Inspired Triboelectric Nanogenerator  
**Yafeng Pang**, Tongji University, China

11.50 - 12.20 Title: Strengthening and Grain Refining of Aluminum Alloy 2014 with Scandium Addition  
**Farid Mulia**, Institut Teknologi Bandung, Indonesia

12.20 - 12.50 Title: Multi-Scaled Polymer Nanocomposite Fabrication  
**Ayse Cagil Kandemir**, TED University, Turkey

12.50 - 13.20 Title: Influence of Ultrafine-Grained Structure Parameters on the Effects of Annealing-Induced Hardening and Deformation-Induced Softening In CP Al  
**Sadykov Dinislam**, ITMO University, Russia

#### Lunch Break (13.20 - 13.50)

13.50 - 14.20 Title: Water-driven based large scale synthesis of CoNiAs nanoparticles as an electrocatalys for alkaline oxygen evolution reaction  
**Priyanka Lakharwal**, Indian Institute of Technology, India

14.20 - 14.50 Title: Multi-Sensor System for Remote Detection of Toxic Gases  
**Nahida Musaeva**, Institute of Physics of AMSE, Azerbaijan

14.50 - 15.20 Title: Production of Carbon from Hazelnut Shell and Lemna Minor by Co-Carbonization  
**Mikail Olam**, Inonu University, Turkey

15.20 - 15.50 Title: Comparison of Emissions: Electric Vehicles vs. Internal Combustion Engine Vehicles  
**Cagri Un**, Purdue University, USA

#### Poster Presentation

15.50 - 16.05 Title: Characteristics of Selected Glass Components and their use in Building Materials  
**Milena Kwiatkowska**, Kielce University of Technology, Poland

15.50 - 16.05 Title: Advances and Challenges for Dry and Flexible Electrodes-based EEG Sensors  
**Sawsen EL HADJ**, Capgemini Engineering, France

Day 1 Concludes

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Day 2 - September 22, 2023 BST

### Oral Presentations

10.00 - 10.30	Title: Preparation of A Novel Nanocomposite and its Properties for Carbon Dioxide Gas Sensing Application <b>Zaireen Fatima</b> , University of Lucknow, India
10.30 - 11.00	Title: Numerical and Experimental Evaluation of Damage in Laminated Composites Tubes Under Low- Speed Impacts <b>Alexandre Neto</b> , CEMMPRE - Polytechnic of Leiria, Portugal
11.00 - 11.30	Title: H <sub>2</sub> Production from Hydrazine Monohydrate (N <sub>2</sub> H <sub>4</sub> ·H <sub>2</sub> O) Using Noble-Metal-Free Ni-W-O- Catalysts <b>Delia Teresa Sponza</b> , Dokuz Eylül University , Turkey
11.30 - 12.00	Title: Synergetic Effects of Boron Nitride with Waste Zirconia: Evolution of Structural and Mechanical Properties for Instantaneous Fingerprint Detection/biomedical Applications <b>Shweta</b> , University of Lucknow, India
12.00 - 12.30	Title: Synthesis and Characterization of 3d Poss Flouresent Dyes Using Click Chemistry and Functionalization of Novel 3d Poss Flouresent Dyes with Molybdenumoxide-Tungsten Oxide Nanocomposite for Biosensor and Anticounterfeiting <b>Ogungbesan Shephrah Olubusola</b> , Federal University of Agriculture Abeokuta, Nigeria
12.30 - 13.00	Title: The Effect of Processing Methods on Ferromagnetic Phase Transformation of the MnAl Alloys <b>Rachida Ghinous</b> , Université Internationale de Raba, Morocco
13.00 - 13.30	Title: Improving the Fatigue Design of Mechanical Systems such as Refrigerator <b>Seongwoo Woo</b> , Ethiopian Technical University, Ethiopia
13.30 - 14.00	Title: Electro-optic Activity of A Non-ideal One-dimensional Photonic Structure <b>Ales Mishchenko</b> , A.A.Galkin Donetsk Institute for Physics and Engineering, Ukraine
14.00 - 14.30	Morphological, Mechanical, and Biological Evolution of Pure Hydroxyapatite and its Composites with Titanium Carbide for Biomedical Applications <b>Sarvesh Kumar Avinashi</b> , University of Lucknow, India