



Scientific Program

4th World Congress on

MATERIALS SCIENCE & ENGINEERING

November 24-25, 2025 | Prague, Czech Republic



**Hosting Organization: Inovine Meetings LLC, 2C Pecan Hill Drive Clinton
Mississippi, 39056 USA | Phone: +1-408-648-2233**

Day 1

November 24–25, 2025 | Prague, Czech Republic

Scientific Program

08:30 –08:45: Registrations

08:45 –09:00: Opening Ceremony

Keynote Presentation



09:00–09:40

Title: Physicochemical and Fire-Resistant Properties of Palm-Based Fire Retardant Composite

Junidah Lamaming

Universiti Malaysia Sarawak, Malaysia

Oral Presentations

09:40–10:10

Title: Fiber–Matrix Interactions in Agricultural Biomass Fiber Composites: Role of Bio-Based Polymer as Matrix Phase

Nurjannah Salim

Universiti Malaysia Pahang Al Sultan Abdullah, Malaysia

10:10–10:40

Title: Multi-density Foam-cell Headrest Design using Fast-Aggressive

Sungwook Cho

Kongju National University, Republic of Korea

Group Photo | Coffee Break 10:40-11:00@ Foyer

Session Introduction

Tracks

Renewable Energy: Conversion and Storage | Waste Management | Biodiversity | Sustainable and Renewable Energy | Bio-based and Renewable Materials | Waste-to-Energy and Biorefineries | Polymer Science | Composite Materials | Polymer Chemistry | Polymer Engineering | Polymer Physics | Polymer Materials

Session Chair: Junidah Lamaming, Universiti Malaysia Sarawak, Malaysia

Session Co-Chair: Thomas J. Webster, University of Pittsburgh, USA

11:00–11:30	Title: Enhancing the Performance of Piecewise Integrated Composite Structures through Optimized Machine Learning Data Allocation Seungmin Ji Kongju National University, Republic of Korea
11:30–12:00	Title: Deep-Learning-Based Prediction of Mechanical Properties of Woven Carbon Fiber Reinforced Plastic Considering Crimp Geometry and Weave Pattern Seung ho Kwon Kongju National University, Republic of Korea
12:00–12:30	Title: Multi-scale interface design for realizing highperformance conversion efficiency in Mg-based thermoelectric device Jing-Tai Zhao Guilin University of Electronic Technology, China
12:30–13:00	Title: Polysaccharides in Agriculture: Crosslinked Sodium Alginate-g-poly(Potassium Acrylate) for Extended Water and Urea Release Talha Genc University of Montpellier, France

Lunch Break 13:00-13:40

13:40–14:10	Title: Solid Waste Management in Climate Change Context: A Systemic Review of Developing Countries Khadija Ouknine Cadi Ayyad University, Morocco
14:10–14:40	Title: Adaptive Mechanisms of Argania spinosa under Harsh Environmental Conditions: A Mini-Review Dounia Azwaq Cadi Ayyad University, Morocco
14:40–15:10	Title: Enhancing Coal Fines through Innovative Sustainable Green Binders for Eco-Friendly Briquettes Tebogo Mashifana University of South Africa, South Africa

Coffee Break 15:10-15:20@ Foyer

Poster Presentation

15:20–15:50	Title: Microstructure and Mechanical Behavior of High-Entropy Alloy Processed by Cyclic Extrusion Compression Method Marcin Madej AGH University of Krakow, Poland
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Day 2

Scientific Program

Virtual Mode Zoom Meeting
(GMT+2) Time in Czech Republic

November 25, 2025 | Virtual

Keynote Presentation

09:00–09:40
Title: Towards a Sustainable World
Marta Balan
Mt Battery Unity in Diversity Trust, Australia

Oral Presentations

09:40–10:00
Title: Aunified formula for the viscosity of polymer solution
Ang-Yang Yu
School of Chemistry & Chemical Engineering of Guangxi University, China

10:00–10:20
Title: Additive Engineering for Efficient and Stable Perovskite Solar Cells
Teo Siow Hwa
Universiti Malaysia Sabah, Malaysia

10:20–10:40
Title: Research on Microstructural and Compositional Changes in Degraded Perovskite Solar Cells
Yung-kuan Tseng
National Yunlin University of Science and Technology, Taiwan

10:40–11:00
Title: Superior Electrochemical Water Splitting Achieved by Incorporating Molybdenum in Self-standing NiSe₂/CoSe₂ Heterostructures
Priyanka Aggarwal
Tantia University, India

11:00–11:20
Title: Complex Metal Ions Role to Enhancing Conversion and Storage of Solar Energy using Reductant and Photosensitizer
Bijendra Singh
Central University of Gujarat, India

11:20–12:00
(Keynote) Title: Crystallographic Transformations and Energy Storage and Dissipation in Thermomechanical Processes in Shape Memory Alloys
Osman Adiguzel
Firat University, Turkey

12:00–12:20
Title: Prospective Investigation of Metal-Oxide Nanofilms for High Performance Devices
Paulo Cesar de Moraes
Catholic University of Brasilia, Brazil

12:20–12:40
Title: Synthesis of biodegradable carboxymethylcellulose polymer hydrogels for water stress mitigation and controlled release of nitrogen and phosphate fertilizers.
Livia Valentim Sanches
Universidade Estadual Paulista, Brazil

12:40–13:20

(Keynote) Title: Microstructure and Mechanical Behavior of High-Entropy Alloy Processed by Cyclic Extrusion Compression Method
Paulo Cesar de Morais
Catholic University of Brasilia, Brazil

13:20–13:40

Title: Analyzing Heat Transfer in Solar-Powered Ventilation to Enhance Energy Efficiency in Buildings
Karla María Aguilar Castro, Carlos Enrique Torres Aguilar, Edgar Vicente Macias Melo
Universidad Juárez Autónoma de Tabasco, Mexico

Panel Discussion
