



## Theme:

**“Unveiling the Latest Materials Innovation for Energy Efficiency, Environment & Sustainability”**

**World Congress on**

# **ADVANCED MATERIALS, ENERGY, ENVIRONMENT & SUSTAINABILITY**

## **Dates:**

July 23 & 24, 2026 (In-Person )

## **Venue:**

**Hotel NH Danube City, Vienna, Austria**

08:30 - 09:00 Onsite Registration & Seating Arrangement  
09:00 - 09:30 Introduction & Open Ceremony

**Plenary Presentation**

09:30 - 10:00	<b>Prof. Lev S. Rapoport</b> Holon Institute of Technology, Israel	Structural stability and instability during friction of FCC metals
10:00 - 10:30	<b>Prof. Zhongfan Liu</b> Peking University, China	Super graphene-skinned materials: concept, synthesis and applications

**Refreshment & Coffee - 10: 30 - 10:50**

**Keynote Presentation**

10:50 - 11:15	<b>Prof. Lidia Castoldi</b> Politecnico di Milano, Italy	Valorization of waste silica for sustainable DFMs in CO2 methanation
11:15 - 11:40	<b>Dr. Stefan H. Bossmann</b> University of Kansas Medical Center, USA	Detection of early solid tumors with liquid biopsy
11:40 - 12:05	<b>Prof. Richard J. Spontak</b> North Carolina State University, USA	Charged block polymers for advanced energy technologies
12:05 - 12:30	<b>Dr. Marina Aghaya</b> A.B. Nalbandyan Institute of Chemical Physics, Armenia	Design and fabrication of metal, ceramic, and composite components through additive manufacturing
12:30 - 12:55	<b>Prof. Jun Onoe</b> Nagoya University, Japan	Science and potential applications of one-dimensional uneven-structured nanocarbon

**Memorable Group Photo & Tempting Buffet lunch - 12: 55 - 13: 40**

**Keynote Presentation Cont.....**

13:40 - 14:05	<b>Prof. Eunsang Kwon</b> Tohoku University, Japan	Structural insights into metal endohedral [C60] fullerenes and their application in high-performance capacitors
14:05 - 14:30	<b>Dr. Alexey Krasnoslobodtsev</b> University of Nebraska Omaha, USA	Atomically precise silver nanoclusters as quantum-confined photoluminescent materials for biomedical applications
14:30 - 14:55	<b>Prof. Peter G. Gyarmati</b> Stanford University, USA	Thoughts concerning artificial intelligence for you
14:55 - 15:20	<b>Prof. Edvin Hevorkian</b> Casimir Pulaski Radom University, Radom, Poland	Advanced nanocomposite materials synthesized by electroconsolidation: structure, properties, and applications
15:20 - 15:45	<b>Assoc. Christl Lauterbach</b> Future-Shape GmbH, Germany	A smart environment based on a large-area sensor floor

**Oral Presentation**

15:45 - 16:05	<b>Prof. Waltraud Kriven</b> University of Illinois at Urbana-Champaign USA	Geopolymers and their potential applications
16:05 - 16:25	<b>Dr. Luzhao Sun</b> Beijing Graphene Institute, China	Layer and stacking controlled epitaxial growth of graphene films
16:25 - 16:45	<b>Prof. José L. Ocaña</b> Universidad Politécnica de Madrid, Spain	The role of process design and modelling in the thermal and microstructural control of laser-assisted additive manufacture of metallic components

16:45 - 17:05	<b>Dr. Dimitrios Kotzias</b> Institute for Health and Consumer Protection, Italy	Smart surfaces: heterogeneous photocatalysis of priority air pollutants on TiO <sub>2</sub> -based coatings in indoor and outdoor environments- a mechanistic view of the processes at the air/catalyst interface
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Refreshment & Coffee - 17:05 - 17:25

Oral Presentations Cont.....

17:25- 17:45	<b>Dr. Orhan Selcuk Sari</b> McGill University, Canada	Modified alloying and processing routes on magnesium-aluminum hydrogen storage intermetallics
17:45 - 18:05	<b>Dr. Yue Qi</b> Beijing Graphene Institute, China	Preparation and application of graphene-skinned fiber materials
18:05 - 18:25	<b>Prof. Paul Oconnor</b> YERRAWA BV, The Netherlands	A catalytic technique for advanced 2D carbon materials from biomass

\*\*\*End of Day 1 Conference\*\*\*

08:30 - 09:00 Onsite Registration & Seating Arrangement  
09:00 - 09:30 Introduction & Open Ceremony

**Plenary Presentation**

09:30 - 10:00 **Prof. Per Arvid Löthman**  
European University of Applied Sciences  
Hamburg (EURO-FH), Germany  
Speak memory, speak – communication & material  
in very far future

**Refreshment & Coffee - 10: 00 - 10:20**

**Keynote Presentation**

10:20 - 10: 45 **Dr. Tatiana Itina**  
Hubert- Curien Laboratory, France  
Multiscale Mechanisms for Femtosecond Laser-  
Assisted Nanoscale Material Modifications

10:45 - 11:10 **Prof. Olivier Bonnaud**  
University of Rennes, France  
Evolution of practical training in microelectronic  
devices through materials to meet the new  
challenges of the digital world

11:10 - 11:35 **Prof. Changguo Wang**  
Harbin Institute of Technology, China  
Mechanical-Electrochemical Failure of Li-ion  
batteries with Si-C composite electrodes

11:35 - 12:00 **Prof. Janusz Kozinski**  
A.B. Nalbandyan Institute of Chemical  
Smart Materials for Hydrogen Generation via  
Hydrothermal Processing

12:00 - 12:25 **Prof. Wei Chen**  
Xi'an Jiaotong-Liverpool University, China  
The Invention of Copper Cysteamine Illuminating  
Many Areas

12:25 - 12:50 **Prof. Isabel Montero**  
ICMM CSIC, Spain  
Recent Advances in Low-Secondary Electron  
Emission Yield for RF-Breakdown Free Devices

**Memorable Group Photo & Tempting Buffet lunch - 12: 50 - 13: 35**

**Oral Presentation**

13:35 - 13:55 **WU Xiaodong**  
Suzhou Institute of Nano-Tech and  
Nano-Bionics, CAS, China  
Preparation and Application of Polymer Solid-State  
Electrolyte

13:55 - 14:15 **Edgardo Roque Benavidez**  
National Technological University,  
Argentina  
Iron-Based Metal Matrix Composites for Applications  
in Agro-Industry Tools

14:15 - 14:35 **Yongkang Han**  
Northwestern Polytechnical University, China  
Directional Moisture-Wicking Janus Graphene Fiber  
Nonwovens for Synergistic Evaporative Cooling and  
Ultrafast Joule Heating

14:35 - 14:55 **Mr. Hotae Jeon**  
Hongik University, Republic of Korea  
Strain-Tunable Electronic Structure of Layered PtSe<sub>2</sub>  
for High-Performance Hydrogen Evolution Catalysis

**Refreshment & Coffee - 14: 55 - 15: 15**

**Oral Presentation Cont.....**

15:15- 15:35 **Dr. Wenyao Li**  
University of Science and Technology  
Beijing, China  
Deciphering the Function of Trace Rare-Earth  
Elements in Corrosion Inhibition

15:35 - 15:55 **Dr. Ang-yang Yu**  
Baise University, China  
Seeking a microwave absorption material in the realm  
of agriculture

15:55 - 16:15 **Dr. Xinrui Wang**  
Nanyang Technological University,  
Singapore  
Scalable Hierarchical Micro/Nanostructuring of  
Additively Manufactured 316L Stainless Steel for High-  
Performance Multifunctional Interfaces

16:15 - 16:35	<b>Prof. Abdelhak Maghchiche</b> Department of pharmacy , university Batna2-Algeria, Algeria	Esparto Cellulose Capsules: Materials and Process Integration
16:35 - 16:55	<b>Prof. Daniel Adu</b> Jiangsu University, China	Strategic Thinking on Development of Small Hydro- power in sub-Saharan Africa Based on Development in EU 27
16:55 - 17:15	<b>Prof. Syeda Fareesa Hassan</b> Yuan Ze University, Taiwan	Sustainable ZrO <sub>2</sub> -Functionalized MCM-41 from Rice Husk
17:15 - 17:35	<b>Prof. Yue Fan</b> University of Michigan, US	MACHINE LEARNING-AUGMENTED MODELING ON THE FORMATION OF NON-CONVENTIONAL NANO- PRECIPITATES IN FAST SOLIDIFIED AL ALLOYS
17:35 - 17:55	<b>Prof. Ahmed Hassaan</b> Nile University, Egypt	Green Preparation of Multifunctional Nanostructures Achieving >95% Efficiency in Energy Harvesting and Environmental Remediation

\*\*\*End of Day 1 Conference\*\*\*

09:00 - 09:30 Introduction & Open Ceremony

**Plenary Presentation**

09:30 - 10:00	<b>Prof. Norbert Hampp</b> University of Marburg, Germany	Periodic nanostructures self-assembled by periodic laser excitation
10:00 - 10:30	<b>Prof. Tohru Higuch</b> Tokyo University of Science, Japan	All-solid-state electric double layer transistor with high switching response speed using high ionic conductor electrolyte

**Refreshment & Coffee - 10:30 - 10:50**

**Keynote Presentation**

10:50 - 11:15	<b>Prof. Wagner A Alves</b> Universidade Federal de Juiz de Fora, Brazil	Solvation structures in mg battery electrolytes: vibrational spectroscopic insights of interest to the electrochemistry area
11:15 - 11:40	<b>Prof. Adam Gadomski</b> Bydgoszcz University of Science and Technology, Poland	Quantum friction at low temperature under vacuum conditions and/or with high-pressure ice monolayer's involvement: fact or fiction?
11:40 - 12:05	<b>Prof. Tetsuya Yamamoto</b> Kochi University of Technology, Japan	Materials design of conductive oxide semiconductor films to achieve high carrier transport for meeting a wide range of applications
12:05 - 12:30	<b>Prof. Mineo Hiramatsu</b> Meijo University, Japan	Plasma-engineered three-dimensional graphene architectures: a process-structure-property perspective
12:30 - 12:55	<b>Prof. Jakub Skoczylas</b> Lublin University of Technology, Poland	Performance of energy harvesting using composite-based piezoelectric nanogenerators
12:55 - 13:20	<b>Prof. Elza Khutsishvili</b> F. Tavadze Institute of Metallurgy and Materials Science, Georgia	Rapid thermal annealing effect on infrared lattice vibrations in InP

**Memorable Group Photo & Tempting Buffet lunch - 13:20 - 14:05**

**Oral Presentation**

14:05 - 14:25	<b>Dr. Jincan Zhang</b> Soochow University, China	Chemical vapor deposition synthesis of high-quality graphene films and its applications in transmission electron microscope imaging
14:25 - 14:45	<b>Prof. W.H. Katie Zhong</b> Washington State University, USA	Abundant natural proteins for functional material applications in nanocomposites, energy storage and environment
14:45 - 15:05	<b>Ms. Preeti Maiti</b> University of Central Florida, USA	Seamless plasmid DNA delivery into the plant cells using zein protein particles
15:05 - 15:25	<b>Prof. Yoshikazu KOBAYASHI</b> Nihon University, Japan	Acoustic emission tomography with consideration of attenuated and diffracted waves
15:25 - 15:45	<b>Prof. Bernd Szyszka</b> Technische Universität Berlin, Berlin	New concepts for PVD synthesis of electrical and optical films utilizing the advantage of low energy and high ion current plasma activation
15:45 - 16:05	<b>Mr. Tomohiro Yabuki</b> Tokyo University of Science, Japan	Fundamental structure of oxide semiconductor sc:TiO <sub>2</sub> thin film and its resistive switching function

## Refreshment &amp; Coffee - 16:05 - 16:25

## Oral Presentation Cont.....

16:25- 16:45	<b>Mrs. Mikika Furukawa</b> Nihon University, Japan	Validation of the grouping elastic waves method on damaged concrete fence
16:45 -17:05	<b>Dr. Jae Young Joo</b> Korea Photonics Technology Institute, Republic of Korea	Fabrication of patterns using laser direct irradiation and its illumination applications
17:05 - 17:25	<b>Prof. Antonio Brenchich</b> University of Genoa, Italy	Concrete from recycled aggregates only: perspectives and limits

## Poster Evaluation and Best Poster Awards - 17:25- 17:55

GM261	<b>Prof. Jong-Tae Son</b> Korea National University of Transportation, Republic of Korea	Enhanced separation-free recycling of spent NCM cathodes: optimizing redox leaching and selective copper sulfidation
AEM261	<b>Prof. Ying Huang Lai</b> Tunghai University, Taiwan	Electronic structure engineering of Ir(IV)-few-layer g-C <sub>3</sub> N <sub>4</sub> interfaces for high atomic utilization in acidic oxygen evolution reaction

\*\*\*End of Day 2 Conference

09:00 - 09:30 Introduction & Open Ceremony

**Plenary Presentation**

09:30 - 10:00	<b>Jyh-Ming Ting</b> National Cheng University, Taiwan	High-performance Electrocatalysts for Anion Exchange Membrane Water Electrolyzer (AEMWE) in Hydrogen Production
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**Refreshment & Coffee - 10:00 - 10:30**

**Keynote Presentation**

10:30 - 10:55	<b>Ge Wang</b> University of Science and Technology Beijing, China	LLM-Driven Discovery of Metal-Organic Frameworks: From Generative Design to Laboratory Realization
10:55 - 11:20	<b>Qiaoliang Bao</b> University of Shanghai for Science and Technology, China	Transformation of confined-space photonics into industrial-level applications
11:20 - 11:45	<b>Yingying ZHANG</b> Tsinghua University, Beijing, China	A New Silk Road towards Smart Wearables
11:45 - 12:10	<b>Dr. Ezendu Ariwa</b> University of Wales Trinity Saint David, UK	Artificial Intelligence (AI) integrated Green Technologies Applications in Engineering Enterprise Sustainability
12:10 - 12:35	<b>Prof. Winny Maboya</b> University of South Africa, South Africa	Fascinating role of chlorine in creating defects in carbon nanomaterials and their electrochemical applications
12:35 - 13:00	<b>Prof. Valeh Shamilov</b> State Oil Company of Azerbaijan Republic, Azerbaijan	Development of a Nanopolymer Reagent Based on Carboxymethyl Cellulose and Multi-Walled Carbon Nanotubes for Enhanced Oil Recovery

**Memorable Group Photo & Tempting Buffet lunch - 13:00 - 13:45**

**Oral Presentation**

13:45 - 14:05	<b>Jingyu Sun</b> Soochow University, China	Versatility of Direct-CVD Graphene in Emerging Energy Devices
14:05 - 14:25	<b>Yanfeng Zhang</b> Peking University, China	Wafer-Scale Syntheses and Growth Mechanism Exploration of Semiconducting Transitional Metal Dichalcogenides
14:25 - 14:45	<b>Prof. Yong Zhou</b> Nanjing University, China	Solar Light-driving Photoconversion of CO <sub>2</sub> into Renewable Hydrocarbon Fuels
14:45 - 15:05	<b>Prof. José Roberto García Chávez</b> Metropolitan Autonomous University, Mexico	Potential of Natural Light to Mitigate Adverse Metabolic Effects of Night Shift Workers
15:05 - 15:25	<b>Dr. Ghalayini (Hanuseac) Ligia Georgiana</b> 1Evaluris Solutions FZCO, Dubai	AGL – an AI-ESG method for evaluation of eco-concretes and sustainable structures
15:25 - 15:45	<b>Jin Lin</b> Northwestern Polytechnical University, China	Efficient electroreduction of carbonyl compounds to alcohols over Fe/Fe <sub>2</sub> O <sub>3</sub> interfaces

**Refreshment & Coffee - 15:45 - 16:05**

16:05 - 16:25	<b>He Jiaxin</b> Northwestern Polytechnical University, China	Elucidating crystal-facet behaviors of Cerium dioxide for Pd/CeO <sub>2-x</sub> catalyst on selective hydrogenation of alkynols
16:25 - 16:45	<b>Rui Bai</b> Northwestern Polytechnical University, China	Strong Electron-Withdrawing Effect Activates Metal-Free Carboxylate Anion into Efficient Active Sites for Electrocatalytic Acetylene Semihydrogenation
16:45 - 17:05	<b>Jiahe Chen</b> Northwestern Polytechnical University, China	Structural Design and Performance Study of MXene-based Flexible SERS Substrates
17:05 - 17:25	<b>Chergui Yahia</b> Mhamd Bougara University, Algeria	Comparative Study of ZnO Wurtzite, Rocksalt, and Zinc Blende Structures Under Isobaric and Isothermal Ensembles; a Molecular Dynamics Computation

**Poster Evaluation and Best Poster Awards - 17:25- 17:55**

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AM263	<b>Thi Xuyen Nguyen</b> National Cheng Kung University, Taiwan	Ligand-Engineered MOF Electrocatalyst as An Energy-efficient Urea-assisted Hydrogen Generation

**\*\*\*Slots Available\*\*\***

**\*\*\*End of Day 2 Conference**



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