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DAY-1|In-Person (November 10 2025)

REGISTRATIONS AND BADGE PICK UP

08:00-08:20AM

Inauguration

08:20-08:40AM

PLENARY PRESENTATION (35+5) Minutes

Chair: **Lenka Matejova**, VSB Technical University of Ostrava, Czech Republic

	08:40-09:20 Beyond Gunpowder: Exploring the Capability of Carbon-Sulfur Alliance TERESA J BANDOSZ, The City College of New York, New York, NY, USA
	09:20-10:00 Carbon Engineering to Transform Next Generation Energy and Energy Storage industry Mohini M Sain, University of Toronto, Canada
	10:00-10:40 Advanced Carbon-based Energy Storage Materials Empowered by Lithium Bond Chemistry. Qiang Zhang, Tsinghua University, China
10:40-11:00	COFFEE BREAK
KEYNOTE PRESENTATIONS	
	11:00-11:30 Magnetism and Light Emission and in Organic Molecules Juan Casado, Universidad de Málaga, Spain
	11:30-12:00 "Fullertubes: 35 Years of Hunting for the Long-missing Families of End-Capped, Tubular Carbon Cage Molecules" Steven Stevenson, Purdue University at Fort Wayne, Fort Wayne, IN, USA

	12:00-12:30 Title To Be Announced Martin Kalbac, J. Heyrovsky Institute of Physical Chemistry, Czech Republic
	12:30-13:00 Catalytic Transformation of Carbon Dioxide under Atmospheric Pressure Toshiyuki Moriuchi, Osaka Metropolitan University, Japan
13:00-13:10	DISCUSSION TIME & GROUP PHOTO
13:10-14:00	LUNCH
	CHAIR TALK: 14:00-14:30 Utilization of Theoretical Approach in Carbon Engineering Lenka Matejova, VSB Technical University of Ostrava, Czech Republic

Oral Presentations

Advances in Carbon Materials: From Synthesis to Catalysis and Applications

Chairs: **Csaba Cserhati**, University of Debrecen, Hungary

14:30-14:50	Biomass-based Carbon Supports Electrocatalysts in Fuel Cells Michael Wark, Carl von Ossietzky University Oldenburg, Germany
14:50-15:10	Fabrication of Carbon-like Layers on the Surface of Nano-sized Pores Through <i>In-situ</i> Polymerization Method Hiroataka Ihara, Kumamoto University, Japan
15:10-15:30	Xylene Adsorbents Produced by Microwave Pyrolysis of Various Types of Waste Zuzana Jankovská, Institute of Environmental Technology, CEET, VSB-TUO, Czech Republic
15:30-15:50	MWCNTs with Different Electrochemical Behaviors Modulate Neuronal Cell Functioning In vivo: A Novel Therapeutic Tool for CNS Degenerative Diseases Silvana Fiorito, National Research Council, Rome, Italy
15:50-16:10	Exploring Carbon Nanostructures: Plasma Synthesis of Graphene-based Materials and Their Applications Mineo Hiramatsu, Meijo University, Japan
16:10-16:30	New Carbon Capture and Utilization (CCUS) Using Electrolysis of Concentrated Seawater and Double Accelerated Mineral Carbonations Sangmin Lee, Kongju National University, South Korea
16:30-16:50	COFFEE BREAK
Chair: Michele Cacioppo , University of Palermo, Italy	

16:50-17:10	New Biochars for Water Treatment Applications Andreas Taubert , University of Potsdam, Germany
17:10-17:30	Quantification of Defects on Chlorinated Nitrogen-doped Carbon Nanomaterials Winny K. Maboya , University of South Africa, South Africa
17:30-17:50	Microbial Electrosynthesis for CO ₂ Upcycling to Value-added Platform Chemicals <i>via</i> Microbe-Electrode Hybrid Process Jung Rae Kim , Pusan National University, South Korea
17:50-18:10	Carbon Adsorbent from Red Mombin Seeds Doped with Metal Oxides for Adsorption of Ammonia and Xylene in Gas Phase José Antonio Moscol Ortiz , Universidad Nacional de Ingeniería, Perú
18:10-18:30	Reevaluating How The Distribution And Size of Basal- and Edge-oriented Graphene Sheets Influence the Voltammetric Responses of Aromatic Molecules Stanislav Hason , Institute of Biophysics of the CAS, Czech Republic
POSTER-1	Highly Sensitive and Selective Detection of Volatile Aromatic Hydrocarbons Using Bilayer Oxide Chemiresistors with Catalytic CeO ₂ Yoon Seong-Young , Kongju National University, South Korea
POSTER-2	Highly Selective and Sensitive Detection of Methylbenzenes Using Co ₃ O ₄ Bilayer Sensors with Nanoscale TiO ₂ and SnO ₂ Overlayers Seo Jung-Hoo , Kongju National University, South Korea
POSTER-3	Highly Conductive Graphene Oxide Quantum Dots as an Anode Additive for an Enhanced Sodium Ion Intercalation and Structural Stability of Sodium Ion Battery Hyung Kee Seo , Jeonbuk National University, South Korea
POSTER-4	Enhanced stability and Performance of Li-CO ₂ batteries Using Si-doped Li _{1.4} Al _{0.4} Ti _{1.6} (PO ₄) ₃ Solid Electrolyte Insoek Seo , Jeonbuk National University, South Korea

DAY-2|In-Person (November 11, 2025)

Frontiers in Multidimensional Materials and Nanotechnology

Chairs: **Camelia Matei Ghimbeu**, CNRS, France



KEYNOTE TALK: 08:20-08:50

Tubular 1D Van der Waals Heterostructures
Gerard Tobias-Rossell, (ICMAB-CSIC), Spain



KEYNOTE TALK: 08:50-09:20 | VIRTUAL

Advanced Atomic Characterization of Carbon Nanomaterials *via* Electron Microscopy
Raul ARENAL, Universidad de Zaragoza-CSIC, Spain

ORAL PRESENTATIONS

09:20-09:40	Catalytic Decomposition of Methane (CH ₄) Using Thermal Spray Coatings Pratidhwani Biswal , Fraunhofer IGP, Germany
09:40-10:00	Mechanochemical Approach for the Fabrication of Carbon Based (Nano)Composites: From Environmental Remediation to Electrochemical Sensing Devices Antonio Turco , CNR Nanotec Institute of Nanotechnology, Italy
10:00-10:20	Multi-material 3D printing at the nanoscale Dmitry Momotenko , Carl von Ossietzky Universität Oldenburg, Germany
10:20-10:40	Bilayer Oxide Semiconductors with Catalytic Overlayers: Toward High-Performance Gas Sensors Seong-Yong Jeong , Kongju National University, South Korea
10:40-11:00	COFFEE BREAK
11:00-11:20	2D and 3D nanostructures of Carbon <i>via</i> Organic, Inorganic and Physico-Chemical Routes Nanoscale Paul Simon , Max-Planck-Institute for Chemical Physics of Solids, Germany
11:20-11:40	Low-Resistivity Paste Containing Cu@Ag Flakes for HJT Solar Cell Electrodes <i>via</i> Optimization of Mixed Ag Salts and Solvents Jong-Hyun Lee , Seoul National University of Science and Technology, South Korea
11:40-12:00	Growth Kinetics of ZnAl ₂ O ₄ in Different Geometries in ZnO/Al ₂ O ₃ Bilayers Csaba Cserhádi , University of Debrecen, Hungary
12:00-12:20	Engineering Carbon Dots as Multifunctional Nanomaterials Michele Cacioppo , University of Palermo, Italy
12:20-12:40	Steel Industry's Clean Revolution Towards Decarbonisation - Pathways, Sustainability, Societies Frank Roegener , TH Köln Institut für Anlagen- und Verfahrenstechnik, Germany
12:40-13:00	Epitaxial Graphene on SiC for Floquet Engineering and Spintronics Paola Barbara , Georgetown University, Washington, DC, USA

13:00-14:00	LUNCH
Chairs: Amir Fahmi , Hochschule Rhein-Waal, Germany	
14:00-14:20	Advanced Carbon Materials <i>via</i> Catalytic Carbonization Paul O Connor , YERRAWA, The Netherlands
14:20-14:40	Carbon Materials for Na-ion Technology: From Batteries to Capacitors Camélia Matei Ghimbeu , CNRS, France
14:40-15:00	Unidirectional Hybrid Nanomat Towards Triboelectric Nanogenerators Devices Amir Fahmi , Hochschule Rhein-Waal, Germany
15:00-15:20	Preparation of Bio-sourced Catalytic Biochar-based Materials Ksenia Parkhomenko , Stratousburg University, France
15:20-15:40	Innovative Pilot-Scale Technologies for Monitoring and Removal of Microplastics in Aquatic Environments Teresa Poerio , Institute on Membrane Technology, National Research Council of Italy (ITM-CNR), Italy
15:40-16:00	Title to be Announced Daniela Shy , VŠB-Technical University of Ostrava, Czech Republic
16:00-16:20	BREAK
16:20-16:40	Title to be Announced David Beke , Wigner RCP, Hungary
16:40-17:00	Influence of Support and Catalyst Layers Deposited on the Surface of Conducting Substrates Using Various Thin Film Deposition Techniques on the Structure of Vertically Aligned Carbon Nanotubes Lilla Nánai , University of Miskolc, Hungary
17:00-17:20	Title to be Announced Rui J. C. Gusmao , University of Chemistry and Technology Prague, Czech Republic
17:20-17:40	Modifying the Yeast Stress Response to Improve Biotechnology Properties Tomas Grousl , Institute of Microbiology of the CAS, Prague, Czech Republic
17:40-18:00	Tailoring Syngas Composition via CO ₂ Electroreduction on Atomically Dispersed NiFe Catalysts Supported on N-Doped Porous Carbon Elias Rodriguez Jara , Institute of Ceramic and Glass (ICV-CSIC), Spain

DAY-3|In-Person (November 12, 2025)

Innovations in Chemistry for a Sustainable Future

Chairs: **Tsutomu Minegishi**, The University of Tokyo, Japan



KEYNOTE TALK: 09:00-09:30 (VIRTUAL)

Emerging Advanced Materials and Technologies to Answer to Society Demands

Rodrigo Ferrão Paiva Martins, FCT UNL, Caparica, Portugal

09:30-09:50

(Photo)Electrochemical Devices for Carbon Neutrality

Tsutomu Minegishi, The University of Tokyo, Japan

09:50-10:10

Iron-Catalyzed Direct Transformation of Alcohols as a Carbon Source

Kento Okabayashi, Osaka Metropolitan University, Japan

10:10-10:30

Light-assisted Nanocomposite Gas Sensors with Data-driven Classification for Low-power Selective Detection

Jaroslav Otta, University of Chemistry and Technology
Prague, Czech Republic

10:30-10:50

Title to be Announced

VIRTUAL

Kenneth A Golden, University of Utah, Salt lake City, Utah, USA

10:50-11:10

Engineering the Electronic and Optical Properties of Ti_2X ($X = C, N$) MXenes Using Oxygen and Fluorine Surface Groups

Se-Hun Kim, Jeju National University, South Korea

11:10-11:30

Title to be Announced

DEOK JIN LEE, Jeonbuk National University, South Korea

11:30-11:50

Phase Investigation of Ternary $AgBiS_2$ Thin Film Deposited by Thermal Co-Evaporation for Photovoltaic Application

Jongsung Park, Gyeongsang National University, Republic of Korea

11:50-12:10

Quantum Sensing and Optics with hBN and Rbn

Liang Haidong, National University of Singapore, Singapore

12:10-12:30

Title to be Announced

Lenka KunCicka, VŠB-Technical University of Ostrava, Czech Republic

12:30-13:30

LUNCH AND DEPARTURES

DAY-3|NOVEMBER 12, 2025|VIRTUAL

Chair: **Abhishek kumar Gupta**, University of St Andrews, United Kingdom



PLENARY TALK: 12:00-12:45

Static- and Oscillating-Electric Fields and their Impact on Peptide Plaques (of Alzheimer's Disease)

Sason Shaik, The Hebrew University of Jerusalem, Israel



KEYNOTE TALK: 12:45-13:15

Bridging Blue Biorefinery and Green Chemistry: Innovative Processes for the Next Generation of Sustainable Materials

Sonia P M Ventura, University of Aveiro, Portugal



KEYNOTE TALK: 13:15-13:45

Structural Control of Carbon Materials without Catalysts

Yasuhiro Yamada, Chiba University, Japan

ORAL PRESENTATIONS (18+2MINS)

13:45-14:05

Hybridization of Catalytic Water Splitting and Bioethanol Conversion As a Realistic Strategy for the Mitigation of CO₂ Emission

Tohru Setoyama, Mitsubishi Chemical Corp., Japan

14:05-14:15
(POSTER)

Highly Conductive Graphene Oxide Quantum Dots as an Anode Additive for an Enhanced Sodium Ion Intercalation and Structural Stability of Sodium Ion Battery

Shahd Boud, Jeonbuk National University, South Korea

14:15-14:35

Bio-inspired and Bio-derived, Sustainable, Methods for Production and Activation of Graphene (composites) for Energy Production/Storage

Izabela Janowska, ICPEES, CNRS, France

14:35-14:55

Chemistry of Supported Single Layer Graphene CO Adsorption and H₂ Dissociation

Luca Vattuone, Genoa University, Italy

14:55-15:15

Methane Production and Stability of the Electricity Grid

MIROSŁAW SZUKIEWICZ, Technical University of Rzeszów, Poland

15:15-15:35

Waste-derived Activated Carbon and Composites for Energy Storage Application

Akshita Singh, Indian Institute of Technology Roorkee, India
ICPEES-CNRS, University of Strasbourg, Strasbourg, France

15:35-15:55

N-autodoped Carbon from WWTP Sludge as Matrix for Ultra-high Sulfur Cathodes in Metal-S Batteries

Azahara Cardoso Almoguera, Universidad de Córdoba, Spain

15:55-16:15

Carbon-Based Materials for Next-Generation Energy Devices: Insights into Synthesis, Characterization, and Application

Jennifer Laverde, Instituto Tecnológico Metropolitano de Medellín -itm, Colombia

16:15-16:35	Borassus Husk Fibre/Epoxy Composites: Experimental Analysis of Physical, Thermal, Flexural, and Dynamic Mechanical Properties for High-Performance Applications Md Atiqur Rahman , University of Bolton, United Kingdom
16:35-16:55	Unraveling the Structural Sensitivity of Metal Catalysts in Ethylene Hydroformylation: Insights from Theory and Experiments Sourav Ghoshal , Kalinga Institute of Industrial Technology (KIIT) Deemed to be University, India
16:55-17:25	BREAK
Chair: Umapada Pal , Instituto de Física, Universidad Autónoma de Puebla (BUAP), Mexico	
17:25-17:45	Magnetic Biopolymer-based Nanosorbents: Fast, Efficient and Sustainable Water Purification Ana Luísa Daniel-da-Silva , University of Aveiro, CICECO, Portugal
17:45-18:05	Development of Red to Near-infrared TADF Emitters and Their Diverse Applications Abhishek kumar Gupta , University of St Andrews, United Kingdom
18:05-18:25	Probing Isotope-Selective Breathing in MIL-53 <i>via</i> In Situ Electron Paramagnetic Resonance Spectroscopy Muhammad Fernadi Lukman , Leipzig University, Germany
18:25-18:45	NiFe ₂ O ₄ /Reduced Graphene Oxide Nanocomposite for Electrochemical Acetaminophen Sensing Umapada Pal , Instituto de Física, Universidad Autónoma de Puebla (BUAP), Mexico
18:45-19:05	Metal-Organic Frameworks for Hydrocarbon Separation Meiyan Gao , University of California, Berkely, CA, USA
19:05-19:25	Improving Single Photon Emission from vdW Materials <i>via</i> Atomic Engineering Shengxi Huang , Rice University, USA
19:25-19:45	High Performance N-I-P GaAsSb Core-Shell Nanowires-based Near-Infrared Photodetectors on Graphene Shanthi Iyer , North Carolina A&T State University, Greensboro, NC, USA
19:45-20:05	A Unified Quantum-Dynamic Framework for Predicting Circularly Polarized Emission in Chiral-Conjugated Polymers Dmitri Kilin , North Dakota State University, Fargo, ND, USA
20:05-20:25	Proteins as Electron Transport Media: Special Role or Structural Coincidence? Sudipta Bera , Weizmann Institute of Science, Israel
20:25-20:45	Electrifying Catalytic CO ₂ Conversion Reactive Process Blaz Likozar , National Institute of Chemistry, Slovenia
20:45-21:05	Title To Be Announced Jan Honolka , Institute of Physics of the Czech Academy of Sciences, Czech Republic
21:05-21:25	Title To Be Announced Francois HENN , Charles Coulomb, UMR Université Montpellier & CNRS, France

21:25-21:45	Synthesis of Graphene Oxide-silver (GO-Ag) Nanocomposite TFC RO Membrane to Enhance Morphology and Separation Performances for Groundwater Desalination, (case Study Marsa Alam Area- Red Sea. Heba Isawi , Desert Research Center, Egypt
21:45-22:05	Nonlinear Spectroscopy in Chlorophyll Dimers Embedded in an Asymmetric Phonon Bath Mohamad Toutounji , UAE University, United Arab Emirates
22:05-22:25	Graphene-based Field-Effect Transistors for Biosensing: Where is the Field Heading To? Sabine Szunerits , Danube Private University, Austria
22:25-22:45	Metal Replacement with Two-dimensional Materials for Sustainable Polymer Composites Alessandra Scida , Institute for organic synthesis and photoreactivity-national research council of Italy, Italy