

EnergEn 2026 PROGRAMME ... at a glance

Tuesday 6 th October		Wednesday 7 th October		Thursday 8 th October		Friday 9 th October	
		08:30-10:00	Registration & Welcome Coffee	08:30-09:00	Registration & Welcome Coffee	09:00-11:00	Scientific Sessions
		10:00-11:40	Official Opening/ Scientific Sessions	09:00-11:45	Scientific Sessions	11:00-11:30	Coffee Break & Posters
		11:40-12:00	Coffee Break & Posters	11:45-12:00	Coffee Break & Posters	11:30-12:30	Scientific Sessions
		12:00-13:30	Scientific Sessions	12:00-13:30	Scientific Sessions	12:30-13:00	CONFERENCE CLOSING SESSION
		13:30-14:30	Lunch & Posters	13:30-14:30	Lunch & Posters	13:00-14:00	Farewell Light Lunch
		14:30-15:45	Scientific Sessions	14:30-15:15	Sponsors Talk		
		15:45-16:15	Sponsors Talk	15:15-16:30	Scientific Sessions		
		16:15-16:45	Coffee Break & Posters	16:30-16:45	Coffee Break & Posters		
		16:45-18:30	Scientific Sessions	16:45-18:15	Scientific sessions		
		18:30	Closing of Day 1	18:15	Closing of Day 2		
17:00-20:00	Registration - Light refreshments & Networking	19:00-20:00	EnergEn Cultural Evening	19:00-23:00	Conference Dinner		

Organizing Committee



Scientific Committee

Mircea Dincă, *Princeton University, USA*

Mohamed Pourkashanian, *Sheffield University, UK*

Tudor Prisecaru, *UNSTPB Politehnica, Romania*

Horia Necula, *UNSTPB Politehnica, Romania*

Magnus Schlosser, *KIT, Germany*

Aishui Yu, *Fudan University, China*

Organizing Committee

Mihai Varlam – *Chair of the Conference*

Roxana Elena Ionete – *Conference Vice-Chair*

Mihnea Cosmin Costoiu, *UNSTPB Politehnica, Romania*

Vladimir Tanasiev, *UNSTPB Politehnica, Romania*

Viorica Handulescu, *ICSI Râmnicu Vâlcea, Romania*

Elena Carcadea, *ICSI Râmnicu Vâlcea, Romania*

Oana Romina Botoran, *ICSI Râmnicu Vâlcea, Romania*

Sebastian Davides Brad, *ICSI Râmnicu Vâlcea, Romania*

Violeta Niculescu, *ICSI Râmnicu Vâlcea, Romania*

ENERGEN 2026 – Programme

7–9 October 2026, Râmnicu Vâlcea

Tuesday, 6 October – Arrival & Welcome

Time	Programme
17:00–20:00	Registration - Light refreshments & Networking <i>Hotel Lobby</i>

DAY 1 — Wednesday, 7 October 2026

THEME 1: Integrated Energy Systems and Circular Energy Infrastructure

“Under the aegis of RoHydroHub – Romanian Hydrogen and New Energy Technologies Hub”

Time	Programme
08:30–10:00	Registration & Welcome Coffee <i>Hotel Lobby</i>
10:00–10:20	Official Opening <i>Aria Conference Hall</i> Welcome addresses from the organizers and institutional representatives Conference Chair: Mihai VARLAM – ICSI Director National Research Authority: Andrei ALEXANDRU – NRA President National University of Science and Technology POLITEHNICA Bucharest: Mihnea Costoiu – Rector of POLITEHNICA University Râmnicu Vâlcea Municipality: Mircia Gutău - Mayor of the City of Râmnicu Vâlcea
10:20–10:40	Strategic Opening Talks
10:20–10:30	Hydrogen Research and Innovation: Strategic Priorities Speaker: Elena CARCADEA, ICSI Rm. Valcea (Romania)
10:30–10:40	Romanian Hydrogen Hub – R&D Portfolio Status. Technology maturity and management priorities Speaker: Adriana Teodora MARINOIU, ICSI Rm. Valcea (Romania)
10:40–11:40	Plenary Session I: <i>Energy Transition and Circular Energy Technologies</i> Session Chair: Elena CARCADEA
10:40–11:10	Mohamed POURKASHANIAN – University of Sheffield, UK Keynote Lecture: Innovation to deployment: circular energy systems and the commercialisation of hydrogen-derived low-carbon fuels
11:10–11:40	Annukka SANTASALO-AARNIO – Aalto University, Finland Keynote Lecture: <i>Circular Economy Approach for Energy Technologies</i>
11:40–12:00	Coffee Break & Posters
Time	<i>Aria Conference Hall</i>
12:00–13:30	Plenary Session II: <i>Advanced Materials and Technologies for Energy Storage</i> Session Chair: Annukka SANTASALO-AARNIO

12:00–12:30	Aishui YU – Fudan University, China Keynote Lecture: <i>Structural and Interfacial Regulation Mechanisms of Porous Carbon-Based Silicon/Carbon Composite Anode Materials Prepared by Chemical Vapor Deposition</i>
12:30–13:00	Mircea DINCĂ – Princeton University, USA Keynote Lecture: <i>MOFs: from Efficient Air Conditioning to Inspiration for Sustainable Batteries</i>
13:00–13:30	Julia AMICI – Politecnico di Torino, Italy Keynote Lecture: <i>Polymer Based Electrolytes for Safer Lithium Metal Batteries</i>

13:30–14:30	Lunch & Posters
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PARALLEL SESSIONS			
Time	Aria Conference Hall	Time	Boardroom Conference Hall
14:30–15:45	Oral Session I: <i>Hydrogen, Integrated Energy Systems and Sustainable Infrastructure</i> Session Chairs: Tudor PRISECARU	14:30–15:45	RoHydroHub Partners Meeting Moderators: Elena CARCADEA and authority representative
14:30–14:45	Diana COCĂRȚĂ – POLITEHNICA Bucharest, Romania <i>From Standards to Sensors: Bridging Regulatory Gaps for Hydrogen–Natural Gas Blends in Residential Combustion</i>	14:30–14:45	Mihai VARLAM – ICSI Rm. Valcea, Romania <i>Advancing hydrogen technologies in Romania: research, innovation and integration within Ro-HydroHub project</i>
14:45–15:00	Hamza BEN AHMED – Babeș-Bolyai University, Romania <i>Building Energy Efficiency as Virtual Energy Capacity: Cooling, Resilience and the Euro-Mediterranean Energy Corridor</i>	14:45–15:00	Vladimir TANASIEV – UNSTPB, Romania <i>Research and Innovation Pathways for Integrated Hydrogen and Energy Systems</i>
15:00–15:15	George Daniel GHIȚĂ – POLITEHNICA Bucharest, Romania <i>Analysis of Waste Heat Recovery Options from an H₂/CH₄-Fuelled CHP System Integrated with an ORC and a Heat Pump</i>	15:00–15:15	Daniel FODOREAN – UTCN, RO <i>Advanced Research Directions and Technology Integration within RoHydroHub</i>
15:15–15:30	Constantin-Leontin DOVINCA – POLITEHNICA Bucharest, Romania <i>Techno-Economic and Performance Assessment of a Modular Solar-Hydrogen CCHP Microgrid</i>	15:15–16:15	Stakeholder Round Table & Discussion/Q&A <i>From Research to Deployment: Opportunities, Needs and Cooperation within the RoHydroHub Ecosystem</i>
15:30–15:45	Adrian PANDELE – Arrow, Romania <i>Wind-to-Hydrogen Integrated System Using a Counter-Rotating Lenz 2 Vertical Axis Wind Turbine</i>		
15:45–16:15	SPONSORS Session Chair: Marius Gheorghe MIRICIOIU	from 16:15	Technical Visit to ICSI Râmnicu Vâlcea <i>Dedicated programme for RoHydroHub and TRI-Vâlcea projects</i>

15:45–16:00	Sponsor Talk – VERDER SRL Cătălina Baroş <i>Verder Scientific Analytical Solutions for Sustainable Energy and Battery Technologies</i>		
16:00–16:15	Sponsor Talk – RONEXPRIM Zhao Liu – Thermo Fisher Scientific <i>Probe the Battery Microstructure via Advanced FIB-SEM Technology</i>		

16:15–16:45	Coffee Break & Posters
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Time	Programme
	<i>Aria Conference Hall</i>
16:45–18:30	Oral Session II: <i>Advanced Batteries and Electrochemical Energy Storage</i> Session Chairs: Robert MARKOWSKI and Mihaela Ramona BUGA
16:45–17:00	Robert MARKOWSKI – UCLouvain, Belgium Invited Speaker: <i>Engineering Multivalent-Ion Storage in Amorphous Coordination Polymers</i>
17:00–17:15	Daniele VERSACI – Politecnico di Torino, Italy <i>Rational Design of Eco-Friendly Binary Binders for Stable and High-Performance SiO_x/C Lithium-Ion Anodes</i>
17:15–17:30	Augustin RAMACKERS – UCLouvain, Belgium <i>Bridging Ion Conduction and Charge Storage in Lithium-Rich Zinc Phosphonate Frameworks</i>
17:30–17:45	Anweshi DEWAN – ICSI Râmnicu Vâlcea, Romania <i>Electrolyte Engineering and Interfacial Stabilization in Anode-Free Sodium-Metal Batteries for Sustainable Energy Storage</i>
17:45–18:00	Leonardo Alberto LUCIANO – Politecnico di Torino, Italy <i>Evaluating Synthesis Parameters of Ti₃C₂T_x MXenes to Balance Polysulphides Adsorption and Li₂S Deposition in Lithium-Sulphur Batteries</i>
18:00–18:15	Sarah ABOUBAKR – ICSI Râmnicu Vâlcea, Romania <i>Dry-Processed NVP Cathode: A Scalable Path to Next-Generation Sodium-Metal Batteries for Sustainable Energy Storage</i>
18:15–18:30	Binson BABU – Shiv Nadar Institution of Eminence, India <i>Confined Water, Fast Ions, Flexible Power: Unraveling K⁺ Storage Mechanisms in Ti₃C₂T_x MXenes</i>

18:30	Closing of Day 1
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19:00–20:00	EnergEn Cultural Evening at the “Ion Dumitrescu” Philharmonic of Râmnicu Vâlcea
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DAY 2 — Thursday, 8 October 2026

THEME 2: Hydrogen Isotopes, Nuclear and Advanced Energy Applications

“From Hydrogen Isotopes and Fusion Technologies to Advanced Energy Systems”

Time	Programme
	<i>Aria Conference Hall</i>
08:30–09:00	Registration & Welcome Coffee
09:00–10:00	Plenary Session III: <i>Hydrogen Isotopes and Fusion Technologies</i> Session Chair: Anisia BORNEA and Marius ZAMFIRACHE
09:00–09:30	Shanliang ZHENG – ASIIPP, China Keynote Lecture: <i>Hydrogen Isotopes Handling and Safety Requirements for Fusion Devices</i>
09:30–10:00	Pavel GRIS – Isowater, Canada Keynote Lecture: <i>Holistic System for Recovering Deuterium from Waste Streams: Operational Experience and Future Horizons</i>

PARALEL SESSIONS

Time	<i>Aria Conference Hall</i>	Time	<i>Boardroom Conference Hall</i>
10:00–11:45	ORAL SESSION III: <i>Hydrogen Isotope Separation, Storage and Fusion Fuel Cycle</i> Session Chair: Shanliang ZHENG and Liviu STEFAN	10:00–11:45	Workshop: <i>Environmental Monitoring and Food Safety - From Soil to Consumer</i> within the ADER Project Moderators: Roxana Elena Ionete and authority representative
10:00–10:15	Weibao LI – ASIIPP, China <i>Design and Construction of a Hydrogen-Isotope Handling Test Facility in Support of Fusion Development</i>	10:00–10:15	Diana Popescu – ICSI Râmnicu Vâlcea, Romania <i>Environmental Monitoring of Organochlorine and Organophosphorus Contaminants along the Soil–Plant–Food Chain: Results and Perspectives from the ADER Project</i>
10:15–10:30	Cristian GHEORGHIU – UPB, RO <i>The Technical Design and Modelling of a Large-Scale Green Hydrogen- Based Back-Up Power Supply System for Data Centers</i>	10:15–10:30	Violeta Niculescu – ICSI Râmnicu Vâlcea, Romania <i>Best Practice Guidelines for Resilient Agriculture and Food Safety: From Soil-Plant-Product Transfer to Clean and Safe Food Production</i>
10:30–10:45	Xuemei REN – ASIIPP, China <i>Application of Palladium-Based Membrane Materials in Hydrogen Isotope Purification for Fusion Fuel Cycle</i>	10:30–10:45	Antoaneta Roman – ICSI Râmnicu Vâlcea, Romania <i>From Default Values to Country-Specific Data: Methodological Advances in Romania's AFOLU Greenhouse Gas Inventory</i>
10:45–11:00	Nicolae BIDICĂ – ICSI Râmnicu Vâlcea, RO <i>ICSI Experience in Hydrogen</i>	10:45–11:30	Discussion/Q&A <i>Research Needs, Applicability and Perspectives</i>

	<i>Isotope Permeation through Metallic Membranes</i>		
11:00–11:15	Sibo Chetry - Leipzig University, Germany <i>Structural Determinants of Dihydrogen Adsorption and Isotopologues Separation in Metal-Organic Frameworks</i>	11:30–11:45	Conclusions
11:15–11:30	Jing WU – ASIPP, China <i>Performance Test of ZrCo-Based Storage Bed for Hydrogen Isotopes</i>		
11:30–11:45	Gheorghe IONIȚĂ – SNN, RO <i>Romanian Heavy Water: Reality, Legend, Innovative Contributions and Perspectives</i>		

11:45–12:00	Coffee Break & Posters
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12:00–13:30	Oral Session IV: <i>Nuclear Technologies, Tritium and Advanced Energy Applications</i> Session Chair: Pavel GRIS and Sebastian-Davides BRAD		
12:00–12:15	Cătălin DUCU – University of Bucharest, Romania Invited Lecture: <i>Lead-Cooled Fast Reactor Technology in Romania. Current Status and Perspectives</i>		
12:15–12:30	Ioan DĂNCUȘ – ELI-NP/IFIN-HH, Romania Invited Lecture: <i>Extreme Light Infrastructure Nuclear Physics – Status Update</i>		
12:30–12:45	Liviu ȘTEFAN – ICSI Râmnicu Vâlcea, Romania <i>Overview on Tritium for Fusion Energy</i>		
12:45–13:00	Yiming LYU – Institute of Energy, Hefei Comprehensive National Science Center, China <i>The Effect of Low-Dose Irradiation on the Localized Corrosion Behavior of Tritium Permeation Barrier in High-Temperature Pressurized Water</i>		
13:00–13:15	Marin CONSTANTIN – RATEN ICN, Romania <i>Optimizing the Power System Decarbonization Cost Through Renewables and Nuclear</i>		
13:15–13:30	Norbert NEMES, Volta Swiss, Elvetia <i>Safe hydrogen future for reliable and green power supply</i>		

13:30–14:30	Lunch & Posters
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14:30–15:15	SPONSORS Session Chair: Marius Gheorghe MIRICIOIU		
14:30–14:45	Sponsor Talk - ALTIUM INTERNATIONAL SRL John SAXTON, Nu Instruments Ltd, UK <i>Evolution 2 – A High-Resolution Gas Source Mass Spectrometer</i>		
14:45–15:15	Sponsor Talk Markus Mayer – SWAGELOK Austria <i>SWAGELOK Romania – Hydrogen Infrastructure and Examples</i>		

15:15–16:30	Oral Session V: <i>Hydrogen-Based and Low-Carbon Energy Systems</i> Session Chair: Vladimir TANASIEV and Elena CARCADEA
15:15–15:30	Ion MALAEL – POLITEHNICA Bucharest, Romania <i>Hydrogen Combustion Technologies for Micro Gas Turbine Combustors: Current Status, Challenges and Future Directions</i>
15:30–15:45	Andrei-Alexandru POENARU – ICMET Craiova, Romania <i>Artificial Intelligence-Based Prediction of Circuit Breaker Behaviour Under Short-Circuit Conditions</i>
15:45–16:00	Florin FLOREAN – POLITEHNICA Bucharest, Romania <i>Preliminary Design of a Modular Hydrogen–Methane Combustion Chamber for PIV/LIF Investigations</i>
16:00–16:15	Marius BONCEA – ICMET Craiova, Romania <i>Experimental Assessment of Instrument Transformer Performance Under Internal Arc Fault Conditions</i>
16:15–16:30	Theodor SIRBU – POLITEHNICA Bucharest, Romania <i>Development and Configuration of an Experimental Stand for Smoke-Based Flow Visualization Through Porous Media</i>
16:30–16:45	Coffee Break & Posters

THEME 3 – ENVIRONMENTAL SYSTEMS, CLIMATE ACTION AND WATER–ENERGY–FOOD NEXUS

16:45–17:45	Plenary Session IV: <i>Environmental Monitoring, Carbon Accounting and Climate Action</i> Session Chair: Dinu GAVOJDIAN and Antoaneta ROMAN
16:45–17:15	Ashok VASEASHTA – Strategic Research / International Clean Water Institute, USA Keynote Lecture: <i>Sources, Detection, and Mitigation Strategies of Micro and Nanoplastics, Tire-Wear Particles, and Forever Chemicals from the Aquatic Environment</i>
17:15–17:45	Mattias LUNDBLAD - Swedish University of Agricultural Sciences (SLU), Department of Soil and Environment, Sweden Keynote Lecture: <i>Perspective on the Need for Robust Data to Support the Development, Implementation and Evaluation of Policies in the LULUCF-Sector</i>
17:45–18:15	Oral Session VI: <i>Climate-Smart Agriculture and Agroecosystems</i> Session Chair: Dinu GAVOJDIAN and Antoaneta ROMAN
17:45–18:00	Dinu GAVOJDIAN – Research and Development Institute for Bovine Balotești, Romania <i>Estimating Enteric Fermentation Parameters in Romanian Cattle for the National Greenhouse Gas (GHG) Inventory</i>
18:00–18:15	Lavinia Mihaela UDREA - Research Institute for Fruit Growing Pitești – Mărăcineni, Romania <i>Developing a Country-Specific Tier 2 Carbon Accounting Framework for Temperate Fruit Orchards: From Field Measurements to National Carbon Stock Estimation</i>
18:15	Closing of Day 2
19:00–23:00	Conference Gala Dinner

DAY 3 — Friday, 9 October 2026

THEME 3: Environmental Systems, Climate Action and Water–Energy–Food Nexus

“From Isotope Science and Environmental Monitoring to Climate Action and Circular Bioeconomy”

Time	Programme <i>Aria Conference Hall</i>
09:00–10:30	Plenary Session V: <i>Isotope Science – From Biogeochemical Processes to Food Systems</i> Session Chair: Ashok VASEASHTA and Oana Romina BOTORAN
09:00–09:30	Philip DUNN – National Measurement Laboratory, UK Keynote Lecture: <i>Speaking a Common Language: The Importance of Scale Definitions, Traceability and Consistent Terminology in Isotopic Analyses</i>
09:30–10:00	Matteo PERINI – IAEA, Vienna, Austria Keynote Lecture: <i>Advancing Food Authenticity and Traceability Through Stable Isotope Techniques: From Bulk Measurements to Molecular-Level Isotope Information</i>
10:00–10:30	Andrius GARBARAS – FTMC, Vilnius, Lithuania Keynote Lecture: <i>Isotopic Insights into Atmospheric Nitrogen Fixation, Mycorrhizal Transfer, and Nitrogen Allocation in Food Crops</i>
10:30–11:00	Oral Session VII: <i>Advances in Isotope Analysis and Applications</i> Session Chair: Ashok VASEASHTA and Oana Romina BOTORAN
10:30–10:45	Ana Maria BENEDEK-SÎRBU, ULBS, Romania <i>Isotopic Signatures in Montane Small Mammals Support the Niche Theory</i>
10:45–11:00	Mario TUTHORN – Thermo Fisher Scientific <i>Advancing Molecular-Level Isotope Ratio Analysis with an Integrated Orbitrap-IRMS Workflow</i>
11:00–11:30	Coffee Break & Posters
11:30–12:30	Oral Session VIII: <i>Advanced Environmental Monitoring and Risk Assessment</i> Session Chair: Andrius GARBARAS and Ionut FAURESCU
11:30–11:45	Ashok VASEASHTA – Strategic Research / International Clean Water Institute, USA <i>Augmented Intelligence-Based Sensing Platforms for Enhanced Situational Awareness</i>
11:45–12:00	Zeng JUNYANG – Chinese Academy of Sciences, China <i>Effects of Tritium Discharge Frequency from China’s Coastal Nuclear Power Plants on Marine Transport, Biological Accumulation, and Ingestion Dose</i>
12:00–12:15	Ionuț FĂURESCU – ICSI Râmnicu Vâlcea, Romania <i>PEM-based system for Enriching Low-level Tritium in Environmental Water Samples</i>
12:15–12:30	Nicolae ALDEA – ITIM Cluj, Romania <i>A new improvement Design and Analysis of Stirling Engine and DC Generator Coupled Based on by Control Theory</i>
12:30–13:00	CONFERENCE CLOSING SESSION Concluding remarks • Awards / Best Presentation & Poster Awards • EnergEn 2026 Closing
13:00–14:00	Farewell Light Lunch

POSTERS

THEME 1: Integrated Energy Systems and Circular Energy Infrastructure

CODE	<i>Aria Conference Hall</i>
YES-P 1	<u>Aishwarya Krishnakumar</u> , Darsi Rambabu, Cristian Morari, Augustin Ramackers, Tom Goossens, Vasudeva Rao Bakuru, Petru Apostol, Robert Markowski, Xiaolong Guo, Nagaraju Nakka, Da Tie, Xiaodong Lin, Viliam Frano, Andrii Kachmar, Shubhadeep Pal, Mihaela Buga, Alexandru Vlad <i>Redox Control in a Conducting MOF Through Coupled Electronic–Vibronic Effects</i>
YES-P 2	<u>Alexandru Rizoïu</u> , Robert Răbuga, Adina Melinte, Adnana Spînu-Zăuleț, Mihaela Buga, Alexandru Vlad <i>Towards High-Efficiency Na Anode-Free Cells: Substrate Screening and Electrolyte Compatibility</i>
YES-P 3	<u>Ilias Ouanzi</u> , Alexandru Vlad <i>New Cathode Materials in the Fe-Po₄-F Chemical Space for High-Performance Sodium-Ion Storage</i>
YES-P 4	<u>Samuel Wantiez</u> , Robert Markowski, Alexandru Vlad <i>Breaking the Ion-Size Barrier: High-Performance Organic Cathodes for Alkali-Ion Storage</i>
YES-P 5	<u>Pirollo Lorenzo</u> , Piera Di Prima, Igor Mele, Tomaž Katrašnik, Julia Amici <i>Enhanced 3D Electrochemical–Electromagnetic Modelling of High-Frequency Impedance in Cylindrical Li-Ion Batteries</i>
YES-P 6	Xinyi Chen, <u>Tao Huang</u> , Aishui Yu <i>Preparation and Performance Research of Modified Polyacrylic Acid Binders for Silicon-Carbon Anodes in Lithium-Ion Batteries</i>
YES-P 7	<u>Nagaraju Nakka</u> , Rambabu Darsi, Adnana Spînu-Zăuleț, Anweshi Dewan, Alexandru Vlad, Mihaela Buga <i>Catechol Derived Sodium Salt for Stable High-Capacity Organic Sodium-Ion Batteries</i>
YES-P 8	<u>Luisa Roxana Mandoc</u> , Radu-Dorin Andrei, Cosmin-Giorgian Ungureanu, Iulian Soare, Mihaela Buga <i>Electrochemical Performance Assessment of Sulfur-Based Electrodes in Li–Sulfur Pouch Cells</i>
YES-P 9	<u>Radu Andrei</u> , Cosmin Ungureanu, Adnana Spînu-Zăuleț, Mihaela Buga <i>Reintegration of Lithium Iron Phosphate Cathode Scrap into Battery Production Via a Low-Cost Circular Manufacturing Approach</i>
YES-P 10	<u>Tiberiu-Nicolae Toșu</u> , Adina Melinte, Alexandru Rizoïu, Mihaela Buga, Dumitru-Titi Cicic <i>Investigation of Residual Stresses and Heat-Affected Zones Induced by Welding Processes in Lithium-Ion Pouch Cells</i>
YES-P 11	<u>Adnana Spînu-Zăuleț</u> , Adina Melinte, Sarah Aboubakr, Robert Markowski, Mihaela Buga, Alexandru Vlad <i>Amorphous Coordination Polymers as Cathode Material for Next-Generation Calcium-Ion Batteries</i>
YES-P 12	<u>Cosmin Ungureanu</u> , Alexandru Rizoïu, Adina Melinte, Adnana Spînu Zăuleț, Mihaela Buga <i>Reconditioning and Assessment of Cylindrical Li-Ion Cells for Second-Life Applications</i>
YES-P 13	<u>Adina Melinte</u> , Adnana Spînu Zăuleț, Cosmin Ungureanu, Anweshi Dewan, Mihaela Buga <i>Lithium Manganese Iron Phosphate (LMFP) as a Next-Generation Battery Cathode for Energy Storage</i>
YES-P 14	<u>Robert Răbuga</u> , Alexandru Rizoïu, Sarah Aboubakr, Adnana Spînu-Zăuleț, Mihaela Buga, Alexandru Vlad, Mihai Avram <i>Integrated Stack Pressure Management System to Enhance the Cycle Life of Anode-Free Sodium-Metal Batteries</i>

YES-P 15	<u>Mihai-Florin Bizdadea</u> , George-Daniel Ghiță, Valentin-Gheorghe Apostol, Horațiu-Lucian Pop, Claudia Ioniță <i>Energy Distribution Strategies in an H₂/CH₄-Fueled CHP System Integrated with an ORC and a Heat Pump</i>
YES-P 16	<u>Ayoub Ahdour</u> , Sebastian Băltoiu, Gheorghe Eugen Ungureanu, Mihaela Iordache, Adriana Marinoiu <i>Engineering a Wearable Hydrogen Microreactor: Catalyst Selection and Prototype Design for Portable Flexible Fuel Cells</i>
YES-P 17	<u>Cătălin Capriș</u> , Adriana Marinoiu, Irina Vagner <i>Characterization of PEMFC Catalysts Using Brunauer–Emmett–Teller (Bet) Measurements</i>
YES-P 18	<u>Irina Vagner</u> , Adriana Marinoiu, Cătălin Capriș, Elena Marin <i>Assessment of Measurement Uncertainty in Bet Specific Surface Area Determination</i>
YES-P 19	<u>Anișoara Oubraham</u> , Mihaela Iordache, Adriana Marinoiu <i>Perspectives and Challenges in Methanol Production Via Catalytic Hydrogenation of CO₂</i>
YES-P 20	<u>Anișoara Oubraham</u> , Mihaela Iordache, Daniela Ebrașu-Ion, Carmen Moraru, George Borta, Adriana Marinoiu <i>Influence of the Support on the Activity and Selectivity of Cu-Based Catalysts for CO₂ Hydrogenation to Methanol</i>
YES-P 21	<u>Mihaela Iordache</u> , Ionut Spiridon, Gheorghe Eugen Ungureanu, Mihaela Bîzga, Anișoara Oubraham, Adriana Marinoiu <i>Effect of CO₂ Recirculation on the Performance of Nasicon-Based Seawater Batter</i>
YES-P 22	<u>Mihaela Iordache</u> , Ionut Spiridon, Gheorghe Eugen Ungureanu, Mihaela Bîzga, Anișoara Oubraham, Adriana Marinoiu <i>Nasicon-Based Seawater Batteries: Challenges, Opportunities, and Future Perspectives</i>
YES-P 23	<u>Ionuț Ștefan Spiridon</u> , Andrei Militaru, Szilveszter Gaspar, Hoarcă Cristian, Laurențiu Codreanu, Cosmin Mielcioiu <i>Fluid Dynamics and Design Architecture in Large-Surface PEMWEs</i>
YES-P 24	<u>Daniela Ion-Ebrașu</u> , Alin Chițu, Ana Nasture, Adriana Marinoiu, Elena Carcadea, Jeni Vilag, Valeriu Vilag <i>A Rectangular Cathode-Vapor-Fed PEM Water Electrolysis Cell For 1-Newton-Class Propulsion Systems</i>
YES-P 25	<u>Miruna-Gabriela Popa</u> , Vintilă Adrian, Nicola Marcel, Nicola Claudiu-Ionel, Neagoe Mihai-Iulian <i>Integration of a Hydrogen Fuel Cell into a Hybrid Photovoltaic-Wind Power Generation System</i>
YES-P 26	<u>Wasim Ullah Khan</u> , Adriana Marinoiu <i>Iron Loading-Driven Structure–Activity Relationships in Al₂O₃-Supported Catalysts for Ammonia Decomposition</i>
YES-P 27	<u>Atul Jamale</u> , Daniela Ion-Ebrasu, Shreyank Naik, Adriana Marinoiu <i>Impact Assessment of 40Pt/C on Oxygen Reduction Reaction at Low Loading of Pt for Polymer Electrolyte Membrane Fuel Cells (PEMFCs)</i>
YES-P 28	<u>Szilveszter Gaspar</u> , Irina Vagner, Adriana Marinoiu <i>Methanol Supply Versus Crossover: The Central Trade-Off in Direct Methanol Fuel Cells</i>
YES-P 29	<u>Silvia-Iustina Pintilie</u> , Adriana Marinoiu <i>Structure–Activity–Stability Relationships of Iridium Oxides in PEM Water Electrolysis</i>
YES-P 30	Adriana Marinoiu <i>Unlocking Green Hydrogen: Advanced Catalysts for Efficient Ammonia Decomposition</i>
YES-P 31	Adriana Marinoiu <i>Catalytic Decomposition of Ammonia as a Zero-Carbon Energy Carrier</i>
YES-P 32	<u>Adriana Marinoiu</u> , Mihaela Iordache <i>Development of Sustainable CRM-Free Catalytic Systems for Ammonia Decomposition</i>

YES-P 33	<u>Radu Tamaian</u> , Adriana Teodora Marinoiu <i>Biological Hydrogen Production in European Union: Technological Pathways, Feedstock Economics, and Deployment Barriers</i>
YES-P 34	<u>Teodora Brănescu</u> , Adriana Marinoiu, Horia Necula <i>Electrolyte Materials for Solid Oxide Fuel Cells: From Conventional Systems to Emerging Concepts</i>
YES-P 35	Teodora Brănescu, <u>Radu Tamaian</u> , Adriana Marinoiu <i>Flexible Membrane Electrode Assemblies for Next-Generation Portable Fuel Cells: Structural Design and Electrochemical Kinetics</i>
YES-P 36	<u>Diana-Elena Ilinescu</u> , Silvia-Iustina Pintilie, Adriana Marinoiu <i>Influence of Iron Loading on the Electrocatalytic Activity of Pt–Fe/Rgo for Oxygen Reduction Reaction in PEM Fuel Cells</i>
YES-P 37	<u>Radu Andrei</u> , Larisa Haloiu, Alexandru Rizoio, Robert Rabuga, Adina Melinte, Alin Chitu, Mihaela Buga <i>Sustainable Advanced Materials for Solid-State Sodium-Ion Batteries: An Efficient, Safe and Eco-Friendly Energy Storage System</i>
YES-P 38	<u>Florin-Alexandru Lungu</u> , Mihai Șerbănescu, Teodor-Adi Ene, Cristian-Ioan Hoarcă <i>Correlating the Effects of Temperature, Clamping Pressure and Current Density on the Performance of a 50 cm² Single-Cell PEM Electrolyzer</i>

THEME 2: Hydrogen Isotopes, Nuclear and Advanced Energy Applications

CODE	<i>Aria Conference Hall</i>
HYD-P 1	<u>Houyin Wang</u> , Shanliang Zheng, Guoqiang Zhong, Weibao Li, Yiming Lv, Changan Chen, Yan Shi, Peilong Li, Junhong Luo, Yun Fang, Yifu Xiong, Fei Jiang, et al. <i>Measurement of Hydrogen Isotopes Flowing Through a Fusion Device</i>
HYD-P 2	George Ana, Gheorghe Bulubasa, <u>Radu Ana</u> , Alina Niculescu <i>Preliminary Assessment of Reduced-Flow and Reduced-Pressure Operation for the WLCB Tritium Extraction and Removal System</i>
HYD-P 3	Mircea Gabriel Macavei, Cosmin Mărculescu, <u>Gabriela Ionescu</u> <i>Effect of Biomass-Derived Syngas Composition on the Performance of a Spark-Ignition Engine-Generator System</i>
HYD-P 4	Mircea Gabriel Macavei, Gabriela Ionescu, <u>Cosmin Mărculescu</u> <i>Hydrogen Addition Effect on the Performance of Micro-CHP Plant with Reciprocating Spark Ignition Engine</i>
HYD-P 5	<u>Hong Zhang</u> , Weibao Li, Jing Wu, Xuemei Ren, Guoqiang Zhong, Shanliang Zheng <i>Complementary UGA and Cryogenic GC for Hydrogen-Isotope Measurement on a Handling Test Facility</i>
HYD-P 6	<u>Xiancail Meng</u> , Xu Li, Long Yang, Yahong Xie, Lizheng Liang, Chundong Hu <i>Progress in the Development of Compact ECR-DD Neutron Generators</i>
HYD-P 7	Vasilache Alin Radu, <u>Postolache Cristian</u> , Lalau Ioana, Bubueanu George, Olteanu Andreea Dana, Șeremet Radu <i>Detection Efficiency Determination of Total Combustion Equipment Using Specific Standards</i>
HYD-P 8	<u>Ovidiu Irimescu</u> , Ovidiu Bălțeanu, Alexandru Bădiță, Loredana Radu <i>Polarization-Curve-Based Degradation Diagnostics of PEM Electrolyzers for Cece Hydrogen Isotope Processes</i>
HYD-P 9	<u>Iuliana Ștefan</u> , Ovidiu Bălțeanu, Ciprian Bucur, George Ana, Nicolae Șoșilcă <i>Development and Implementation of an Integrated Scada Control System for an In-House Electrolyzer Within a CECE Facility</i>
HYD-P 10	<u>Mirela Drăghia</u> , Ion Cristescu, Gheorghe Pașca, Alin Fuciu <i>Development of a Mobile Water Detritiation Facility</i>

HYD-P 11	<u>Camelia Taiga</u> , George Ana, Gheorghe Popescu, Bogdan Monea, Radu Ana, Robert Dărămuș <i>CFD Thermal Evaluation of a ZAO Based GB to be Used in TER System</i>
HYD-P 12	<u>Grafov Aleksandr</u> , Oleksandr Sirosh, Sebastian Davides Brad, Mihai Vijulie, Alin Lazar, Andrii Rozhentsev, Cătălin Brill <i>Method for Measuring the Characteristic Parameters of the Porous Structure of a Super-Filter</i>
HYD-P 13	<u>Grafov Aleksandr</u> , Oleksandr Sirosh, Sebastian Davides Brad, Mihai Vijulie, Alin Lazar, Andrii Rozhentsev, Cătălin Brill <i>Selecting Super-Filter Parameters for Separation 3He-4He Mixture</i>
HYD-P 14	<u>Anisia Bornea</u> , Marius Zamfirache <i>Optimization of the Tritium Separation Process Within the CECE Advanced Modular System: A Comprehensive Parametric and Modelling Study</i>
HYD-P 15	<u>Marius Zamfirache</u> , Anisia Bornea, Ovidiu Bălteanu, Iuliana Ștefan, George Ana, Ciprian Bucur, Ionuț Făurescu <i>Design and Experimental Evaluation of an Advanced Modular CECE System for Hydrogen Isotope Separation</i>
HYD-P 16	<u>Oleksandr Sirosh</u> , Aleksandr Grafov, Sebastian Davides Brad, Mihai Vijulie, Alin Lazar, Andrii Rozhentsev, Cătălin Brill <i>Aspect of Modelling Processes in an Adiabatic Ortho-Para Hydrogen Converter</i>
HYD-P 17	<u>Adriana Marinioiu</u> , Mihaela Iordache, Mariana Iliescu, Daniela Ion-Ebrașu, Elena Marin, Mihai Varlam <i>New Approaches to Flexible Electrodes for Wearable PEM Fuel Cells</i>
HYD-P 18	<u>Mihaela Iordache</u> , Adriana Marinioiu, Mariana Iliescu, Daniela Ion-Ebrașu, Simona Borța, Anișoara Oubraham, Mihai Varlam <i>Innovative Materials for PEM Flexible Fuel Cells Membranes</i>
HYD-P 19	<u>Sebastian Băltoiu</u> , Adriana Marinioiu, Mihai Culcer <i>Power Management for a Portable System Based on Hydrogen Technology</i>
HYD-P 20	Sebastian Davides Brad, Mihai Vijulie, Claudia Dumitrescu, Alin Lazar, Aleksandr Grafov, Oleksandr Sirosh, Andrii Rozhentsev, Catalin Brill <i>Characterization of Packings for Separation of Hydrogen Isotope Mixtures by Cryogenic Distillation</i>
HYD-P 21	<u>Gheorghe Bulubașa</u> , Maria Ecaterina Crăciun, Monica Zapciroiu, Alina Niculescu, Iuliana Ștefan <i>Modelling of Hydrogen Isotope Mixture Absorption in Sponge Palladium at Low Temperatures</i>

THEME 3: Environmental Systems, Climate Action and Water–Energy–Food Nexus

CODE	Aria Conference Hall
ENV-P 1	<u>Livia-Andreea Dina</u> , Cristi Bratu, Ioan Iordache, Paul-Mihai Mircea <i>The Vector of Change: Sustainable Solutions for the Conversion and Storage of Clean Energy</i>
YES-P 2	<u>Elisabeta-Irina Geană</u> , Corina Teodora Ciucure, Adelina Andreea Constantin <i>Grape Pomace Valorization for a Resilient Future: Advancing Circular Pathways Toward Value-Added Bioproducts, Climate Action and Environmental Sustainability</i>
ENV-P 3	<u>Irina Petreanu</u> , Corina Ciucure, Adelina Constantin, Violeta-Carolina Niculescu, Claudia Șandru, Oana Tanislav, Elisabeta-Irina Geană <i>Lignin as a Natural Resource for Innovative Materials: Advancing Circular Bioeconomy, Climate Action and Environmental Sustainability</i>
ENV-P 4	<u>Claudia Șandru</u> , Adelina Andreea Constantin, Irina Mirela Petreanu, Corina Teodora Ciucure, Elisabeta-Irina Geană <i>Physicochemical Characterization and Ecological Risk Assessment of Digestates Derived from the Anaerobic Digestion of Pretreated Lignocellulosic Biomass</i>
ENV-P 5	<u>Claudia Șandru</u> , Marius Gheorghe Miricioiu <i>Mineralogical Profiling and Chemical Parameter Assessment of Romanian Honey: Regional and Temporal Variability Analysis</i>
ENV-P 6	<u>Andreea-Adelina Constantin</u> , Ciucure Corina Teodora, Geană Elisabeta-Irina

	<i>Validation and Application of a DNS Method for Monitoring Reducing Sugar Consumption During Anaerobic Dark Fermentation and Biohydrogen Production</i>
ENV-P 7	<u>Corina Teodora Ciucure</u> , Constantin Andreea-Adelina, Geană Elisabeta-Irina <i>Sugar Conversion and Organic Metabolite Formation During the Dark Fermentation of Lignocellulosic Biomass</i>
ENV-P 8	<u>Violeta-Carolina Niculescu</u> , Ramona-Raluca Handolescu, Ana Maria Nasture, Nadia Păun, Ramona Ionela Zgavarogea, Diana Ionela Popescu (Stegaruș), Marius-Gheorghe Miricioiu <i>FTIR-Based Fingerprinting of Soil, Feed, Milk and Cheese for Traceability Assessment in Two Romanian Dairy Production Regions</i>
ENV-P 9	Ionela Ramona Zgavarogea, <u>Nadia Păun</u> , Violeta-Carolina Niculescu, Ana Maria Nasture, Marius Miricioiu, Andreea Maria Iordache, Roxana-Elena Ionete <i>Elemental Profiling and Environmental Contaminant Assessment in Tomato-Based Products</i>
ENV-P 10	<u>Sorina Apostol</u> , Narcisa Ghimiș, Ionuț Făurescu, Silvia Ciolacu, Denisa Făurescu, Diana Bogdan <i>Preliminary Radiochemical Assessment of Natural Mineral Water Samples from Vâlcea County, România: Spring and Summer 2026</i>
ENV-P 11	<u>Geani Man</u> , Marin Florian <i>Thorium Recovery from Dilute Aqueous Solutions by Nanofiltration Using Polymer–Crown Ether Composite Membranes</i>
ENV-P 12	<u>Anca Maria Zaharioiu</u> , Oana Maria Tanislav, Antoaneta Roman, Felicia Bucura, Marius Constantinescu <i>ASH Content in Cattle Manure: Statistical Assessment and Development of a Country-Specific Parameter for Romania</i>
ENV-P 13	<u>Marius Constantinescu</u> , Antoaneta Roman, Alin Chițu, Oana Maria Tanislav, Anca Maria Zaharioiu, Felicia Bucura <i>Integrating Earth Observation into LULUCF MRV in Romania: From Spatially Explicit Land Monitoring to Tier 2 Carbon Stock Assessment</i>
ENV-P 14	<u>Oana Maria Tanislav</u> , Simona Oancea, Marius Constantinescu, Anca Zaharioiu, Felicia Bucura, Antoaneta Roman <i>Biochemical Methane Potential of Cattle Manure: An Experimental Framework Towards a Romanian Reference Parameter</i>
ENV-P 15	<u>Anca Becze</u> , Florin Simedru, Eniko Kovacs, Lucian Dordai, Dorina Simedru <i>From Static Accounting to Dynamic LCA Through IoT Integration in Sustainable Food Value Chains</i>
ENV-P 16	<u>Roxana Elena Ionete</u> , Oana Romina Botoran, Gabriela Cristea, Diana Costinel, Elisabeta Irina Geana, Ana Maria Simionescu, Marius Miricioiu <i>Stable Isotopes as Analytical Anchors in Protein Traceability Systems</i>
ENV-P 17	<u>Viorica Voicu</u> , Ionel Dumbravă, Ionuț Toma, Denisa Burada <i>About an Electrical Rectification Equipment Used in Electrolysis in the 1980^s</i>
ENV-P 18	<u>Ionuț Toma</u> , Cristina-Maria Nițu <i>Recycling and Recovery of Waste from Composite Insulators</i>
ENV-P 19	Violeta-Carolina Niculescu, <u>Ramona-Raluca Handolescu</u> , Diana Ionela Popescu (Stegăruș), Sina-Niculina Cosmulescu <i>Iron Oxide-Modified Biochar from Potato Peels for the Adsorption of Organochlorine Pesticides from Contaminated Water</i>
ENV-P 20	<u>Oana Romina Botoran</u> , Irina Elisabeta Geană, Claudia Șandru, Nadia Păun, Radu Tamaian, Diana Constantinescu-Aruxandei, Florin Oancea, Roxana Elena Ionete <i>Sustainable Valorization of Plant By-Products and Extracts in Functional Fermented Beverages: An Integrated Pilot-Scale Chemical and in Silico Assessment</i>
ENV-P 21	<u>Oana Romina Botoran</u> , Diana Costinel, Ana Maria Simionescu, Marius Miricioiu, Ramona Zgavarogea, Irina Elisabeta Geană, Roxana Elena Ionete <i>FishROrigin: Integrated Isotopic and Molecular Approaches for Freshwater Fish Origin and Authenticity</i>
ENV-P 22	<u>Aurel Simion</u> , Diana Popescu, Roxana Elena Ionete, Oana Romina Botoran <i>Preliminary Feasibility Assessment of Salt-Mine Maturation for Dry-Cured Meat Products: Experimental Evidence from Ocnele Mari Salt Mine, Romania</i>

ENV-P 23	<u>Diana Costinel</u> , Oana Romina Botoran, Roxana Elena Ionete, Ana Maria Simionescu, Marius Gheorghe Miricioiu, Augustina Pruteanu, Aura Irina Istrate <i>Influence of Biocomposite Fertilization on CNO Isotope Fingerprints of Raspberries in Contrasting Agroecosystems</i>
ENV-P 24	<u>Marius Gheorghe Miricioiu</u> , Oana Romina Botoran, Diana Costinel, Roxana Elena Ionete <i>Grapevine Water Relations Revealed by Stable Isotopes Under Different Climatic Conditions</i>
ENV-P 25	<u>Ana Maria Florea</u> , Stefan Caramizoiu, Ana-Maria Iordache, Stefan-Marian Iordache, Bogdan Bitu <i>Sensor Array for Microclimate Monitoring in a Mini-Greenhouse</i>