

2nd International Conference on
Renewable Energy

November 11-13, 2024 | Barcelona, Spain | Hybrid


Hotel Occidental Atenea Mar
Paseo García Faria 37-47,
08019 Barcelona, Spain



Timezone: CEST-Barcelona Time



<https://ren.unitedscientificgroup.org/>



renewable@uniscigroup.net

Join Zoom Live Stream

<https://us06web.zoom.us/j/85904838499?pwd=TTTr9Hcv0Tn5Sslzy44ayPjAWDbwNT.1>

Meeting ID: 859 0483 8499

Passcode: 132576

08:30-09:00 Registrations and Badge Pickup

09:00-09:10 Opening Remarks

Plenary Presentation

Chair: Musse Mohammud Ahmed, UNIMAS, Malaysia



09:10-09:50

Michel Armand, CIC energiGUNE, Spain

Polymer Electrolyte Batteries, Past, Present and Future

Keynote Presentations



09:50-10:20

Mohamed Khayet, University Complutense of Madrid, Spain

Photo-thermally Heated Membranes for Desalination by Membrane Distillation



10:20-10:50

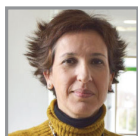
Yoon-Bong Hahn, Jeonbuk National University, South Korea

Efficient and Stable Perovskite Solar Cells with Graphene-based Functional Composites

10:50-11:10

Coffee Break

@Lobby Bar



11:10-11:40

Monica Aguado Alonso, CENER, Spain

Flexibility in the Power System: What does it Involve?



11:40-12:10

Carlos del Cañizo, IES-UPM, Spain

Solar Photovoltaics at the Heart of a Sustainable Energy System: The Challenges Ahead



12:10-12:40

Emilio Nieto Gallego, National Hydrogen Center (CNH2), Spain

Hydrogen: Present and Future

12:40-12:50

Discussion Time and Group Photo

12:50-13:40

Lunch Break

@Buffet Restaur

Oral Presentations

Material Science & Solar Energy

Chair: Mohamed Khayet, University Complutense of Madrid, Spain

- 13:40-14:00 **Musse Mohammud Ahmed**, UNIMAS, Malaysia
Novel Algorithm Application Development to the Extra-large Scale Optimal Solar Energy Sites Identification
- 14:00-14:20 **Valentina Stojceska**, Brunel University London, United Kingdom
Sustainability Assessment of a Novel Solar Energy Application in Industrial Processes
- 14:20-14:40 **Ana Patricia Talayero Navales**, CIRCE Foundation, Spain
Estimating Photovoltaic Inverter Production with Confidence Intervals
- 14:40-15:00 **Yawovi Noughblega**, (CERME), University of Lome, Togo
Study of Thermoelectric Efficiency for Combined and Shunt Solar Chimneys via Vented Photovoltaic Panels with Multiple Inlets
- 15:00-15:20 **Anita Trenczek Zajac**, AGH University of Krakow, Poland
Photoactive Heterostructure for Solar Energy Conversion
- 15:20-15:40 **Coffee Break** @Lobby Bar
- 15:40-16:00 **Baneto Mazabalo**, (CERME) University of Lome, Togo
Simultaneous Effect of Precursor Source and Concentration on Structural Morphological and Optical Properties of ZnO Nanostructured Thin Films for Photovoltaic Applications
- 16:00-16:20 **Jakob Albert**, Hamburg University, Germany
3D-printed Raney-Cu POCS as Promising New Catalysts for Methanol Synthesis
- 16:20-16:40 **Anna Kornushchenko**, University of Munster, Germany
Formation of Porous Metal Micro and Nanosystems under Near-equilibrium Condensation Conditions
- 16:40-17:00 **Jaroslav Serafin**, University of Barcelona, Spain
Ti₃C₂ MXenes: Synthesis and Multifunctional Applications in Energy and Environmental Technologies

17:00-18:00 Poster Presentations

@Lobby Bar

- P-01** **Mohamed Khayet**, University Complutense of Madrid, Spain
Solar Membrane Distillation Process Using Self-heating Membrane
- P-02** **Mohammed Mansour Almansour**, Exeter University, United Kingdom
Life Cycle Assessment of Waste to Energy
- P-03** **Ngo Duc Vu**, Kunsan National University, South Korea
Framework for Seismic Fragility Analysis of Suction Bucket Supported Offshore Wind Turbine Considering Site-specific Effect
- P-04** **Dorothea Voss**, Hamburg University, Germany
Pioneering Strategy for Simultaneous Humin Valorization and Homogeneous Catalyst Recycling Using Nanofiltration
- P-05** **EunYoung Kim**, Korea Institute of Civil Engineering & Building Technology, South Korea
Strategies for Utilizing Building Energy Through the Construction of Modular Vertiport

- P-06** **Tae-Jun Yeom**, Korea Institute of Civil Engineering & Building Technology, South Korea
Research on the Design and Considerations of UAM Vertiports and Modular Energy Storage Systems
- P-07** **Marija Macenic**, University of Zagreb, Croatia
Technical Approaches to the Use of Abandoned Wells for Geothermal Energy Utilization – Project INTERREG CE TRANSSEO Experiences
- P-08** **Kapil Kedar Tirpude**, IIT Bombay, India
Study of Transition Metals Based Multicomponent Alloys for Hydrogen Storage
- P-09** **Valentina Stojceska**, Brunel University London, UK
Life Cycle Assessment of a Building Renovation: Environmental and Economic Benefits of Energy Efficiency and Renewable Energy Integration
- P-10** **Stefano Trocino**, CNR-ITAE, Italy
The First Year of Research Activities in the SERGIO Project “Sustainable photoElectRochemical hydroGen evolution” (an Italian Project of Significant National Interest (PRIN) in the Context of NextGenerationEU)
- P-11** **Ioana Anasiei**, IMNR, Romania
Recovery of Li_2CO_3 from Purified Spent Li-ion Batteries in Nitrate System Solution
- P-12** **Yi Jing Chan**, University of Nottingham, Malaysia
Optimisation of Biogas Production from Anaerobic Digestion of Food Waste
- P-13** **Chaudhry Ghulam Farid**, University of Barcelona, Spain
Enhancing Cycling Stability of Lithium-ion Battery Anodes through MoO_3 Nanoparticle Functionalization on Silicon Nanowire Arrays

End of Day-1

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Keynote Presentations

Chair: Karel Borovec, Energy Research Centre, Czech Republic



9:00-09:30

Pilar de la Cruz, UCLM, Spain

Challenges of Molecular Design of Materials for Organic Solar Cells



9:30-10:00

Pedro Gomez-Romero, ICN2- NEO-Energy Group Leader, Spain

Energy Storage, Enabling the Transition to a Sustainable Energy Model

Oral Presentations

Clean Fuel & Pollution Management

10:00-10:20	Salim Daccache , INSA Toulouse, France Magnetically Induced Heterogeneous Catalysis for Energy Storage Applications: Methanation of CO₂	
10:20-10:40	Laura Simonelli , ALBA Synchrotron, Spain Operando Multi-edge XAS to Unlock the CO Removal Effect in Li- and Mn Rich NMC Cathodes	
10:40-11:00	Coffee Break	@Lobby Bar
11:00-11:20	Adekunle Akim Salami , (CERME) University of Lome, Togo Solar Irradiance Prediction Using the Hybrid Support Vector Regression and Long Short-term Memory LSTM-SVR Approach	
11:20-11:40	Orlando Salcedo-Puerto , LUT University, Finland Life Cycle Assessment of Alternative Pulp Mill Sludge Treatment Methods in Finland	
11:40-12:00	Maria Blecua de Pedro , CIRCE Foundation, Spain Chemical Recycling of Photovoltaic Modules, Wind Blades, and EV Batteries in Europe: Current Situation, Regulations, and Technologies	
12:00-12:20	Cristina Alonso Egido , National Hydrogen Center (CNH2), Spain Advanced Material and Reactor for ENergy Storage THrough Ammonia (ARENHA Project)	
12:20-12:40	Sara Rubio , National Hydrogen Center (CNH2), Spain FCH2RAIL Project: Development of a Modular Hydrogen Refuelling Station Prototype for Heavy Duty Vehicles	
12:40-13:40	Lunch Break	@Buffet Restaur

Hydrogen & Power Energy Management

Chair: Valentina Stojceska, Brunel University London, United Kingdom

- 13:40-14:00 **Karel Borovec**, Energy Research Centre, Czech Republic
Determining the Purity of Hydrogen from Renewable Sources
- 14:00-14:20 **Xi Jiang**, Queen Mary University of London, United Kingdom
Insight into Pollutant Formation of Ammonia and Ammonia-hydrogen Combustion Utilisation
- 14:20-14:40 **Shubhadeep Majumdar**, University of Barcelona, Spain
Enhancing Hydrogen Evolution: Carbon Nanotubes as a Scaffold for Mo₂C
- 14:40-15:00 **Ralph-Uwe Dietrich**, German Aerospace Center, Germany
Efficient European Biomass Utilization for Sustainable Aviation Fuels
- 15:00-15:20 **Annika Bjorn**, Linkoping University, Sweden
Alternative Operational Approaches to Enable More Biomethane in Biogas Processes
- 15:20-15:40 **Coffee Break** @Lobby Bar
- 15:40-16:00 **Yao Bokovi**, (CERME) University of Lome, Togo
Study of the Transient Stability of the Electrical Transmission Network of the Electric Community of Benin (CEB) Using Powerworld Software Sentence Case
- 16:00-16:20 **Igor Ivankovic**, HOPS, Croatia
Advanced Data Quality Monitoring for Energy System Management
- 16:20-16:40 **Alessio Marchesin**, Terna Spa, Italy
Italy's Energy Transition: History of Challenges and Technological Solutions for Renewable Integration

End of Day-2

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09:40-10:00 Introduction & AV Check

Keynote Presentation

Chair: Alberto Pliego, CUNEF University, Spain



10:00-10:30

M. A. Hannan, Sunway University, Malaysia

Energy Storage Integrated Power Grid for a Net-zero Future

Oral Presentations

- 10:30-10:50 **Song-Jeng Huang**, National Taiwan University of Science and Technology, Taiwan
A Comparative Analysis of Hydrogen Storage Characteristics in AZ31 Magnesium Alloy with the Addition of Graphene and Carbon Nanotubes via Ball Milling Process
- 10:50-11:10 **Rana Al Kady**, RCREEE, Egypt
ATMP Overview
- 11:10-11:30 **Alberto Pliego**, CUNEF University, Spain
Development of Advanced Algorithms for Maintenance Optimization of Floating Offshore Wind Farms (FOWFAM Project)
- 11:30-11:50 **Shahd Eltahir**, University of Khartoum, Sudan
Sustainable Energy Solutions for Sudan's Lack of Electricity: Unlocking the Potential
- 11:50-12:10 **Antonia Sonia Alves Cardoso Diniz**, PUC MINAS, Brazil
The Contribution of Photovoltaic Solar Energy for Brazil's Electricity Matrix

Keynote Presentation



12:10-12:40

Vladimir Novotny, Northeastern University, Boston, MA

Changing Wastewater and Waste Solids Management Energy Uses and GHGs Emitting Techniques to Integrated Renewable Hydrogen, Energy, and Resources Production Systems with Negative GHG Emissions

Oral Presentations

- 12:40-13:00 **Qingqing Li**, Towson University, The United States
A Novel Unsupervised Data-driven Method for Electricity Theft Detection in AMI Using Observer Meters
- 13:00-13:20 **Sebastien Sheng**, Brick, NY
Application of AI & Reinforcement Learning to Renewable Development and Energy Efficiency
- 13:20-13:40 **Christian Calvilo Munoz**, University of Strathclyde, Glasgow, United Kingdom
A Just Transition for All? Analysing the Impacts of Low Carbon Heat and Transport Changes on Groups with Protected Characteristics
- 13:40-14:00 **Elisa Moretti**, Ca' Foscari University of Venice, Italy
Nanomaterials by Design: Tailored Morphology for Environmental Challenges

End of Day-3

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