

Scientific Program

4th International Conference on Renewable Energy, Resources & Sustainable Technologies

Monday
November 14, 2022

Meeting Hall: Torlonia

Day 1 - November 14, 2022

09:00 - 09:40 Registrations

09:40 - 10:00 Introduction

Keynote Presentations

10:00 - 10:40 **Decentral Hydrogen**
Paul Grunow, Trinity Solarbeteiligungen GmbH, Germany

Group Photo (10:40-11:00)

11:00 - 11:40 **Paving the Way Towards Sustainable Energy Storage Systems**
Christina Toigo, Christina Toigo Consulting, Germany

Oral Presentations

Sessions Energy Storage and Conservation | Nano Polymers | Biocomposite Materials | Sustainable Engineering and Energy Technologies | Geothermal Energy | Renewable Energy & Resources | Biopolymers | Biodegradable Polymers | Biopolymers : Sources, Production, Properties and Applications | Bioplastics applications | Bioplastics

Session Chair- **Jingxin Wang**, West Virginia University, USA

Co Chair - **Rubens Maciel Filho**, UNICAMP- Campinas, Brazil

11:40 - 12:10 **Power-to-Methane: The Technology for Sector Coupling**
Robert Bauer, University of Luxembourg, Luxembourg

Refreshment Break (12:10-12:35) @ Foyer

12:35 - 13:05 **Optimal Management of Renewable Generation and Uncertain Demand with Reverse Fuel Cells by Stochastic Model Predictive Control**
Francesco Conte, University of Genova, Italy.

13:05 - 13:35 **Aviation PEM Fuel Cells, and their Reliability Enhancement**
Xin Gao, Technical University of Braunschweig, Germany

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Lunch (13:35-14:35) @ .IT Italian Restaurant

- 14:35 - 15:05 Influence of Silver Nanoparticles on Polymer Matrix
Velgosová Oksana, Technical University of Košice, Slovakia
- 15:05 - 15:35 Examining the Miscibility and Processability of PLA with Waste Paper Particles
Maja Rujnic Havstad, University of Zagreb, Croatia
- 15:35 - 16:05 Unravelling the Potential and Development of Sustainable Biobased Plastics
Rakesh Nair, Bio Base Europe Pilot Plant, Belgium
- 16:05 - 16:35 An Assessment of Geothermal Energy Potential in Gandhar Area of Cambay Basin, India: 3D Basin Modeling Study
Dhanesh Kumar Phaye, ONGC Ltd., India

Refreshments (16:35 - 17:00) @ Foyer

- 17:00 - 17:30 Bio-FDCA™
Ken Barrett, ARZEDA Corp, USA
- 17:30 - 18:00 Mechanical, Thermal, Morphological and Flammability Properties of Rigid Lignin-based Bio-Sourced Foams
Taiwo K. Fagbemigun, Georg-August University, Germany
- 18:00 - 18:30 Bioinspired Electrospun Fibrous Materials based on Poly-3-Hydroxybutyrate and Modifying Additives for Biomedical Application.
Polina M. Tyubaeva, Plekhanov Russian University of Economics, Russia
- 18:30 - 19:00 Development of Bioplastic-Based Materials in the Automotive Industry and Investigation of the Effect on Mechanical Properties
Ali Ulaş Malcıoğlu, Assan Hanil Otomotiv Sanayi Ve Ticaret A.Ş., Turkey

End of Day 1

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Meeting Hall: Torlonia

Day 2 - November 15, 2022

Keynote Presentations

10:00 - 10:40 Bioinspired 3D Constructs of Fiber-Reinforced Polysaccharide-based Anisotropic Hydrogels
Anayancy Osorio-Madrado, University of Freiburg, Germany

10:40 - 11:20 Study the Connection Impacts of Solar PV Through the Load Flow Analysis at Muscat Electricity Distribution Company (MEDC) Network, Sultanate of Oman
Mohammed Al Rashdi, Muscat Electricity Distribution Company, Oman

Refreshment Break (11:20-11:40) @ Foyer

Oral Presentations

Sessions Renewable Energy & Resources | Biocomposite Materials | Green Chemicals
Biopolymers and Bioplastics | New-to-the-world Biopolyesters | Biomass and Biofuels
| Renewable Energy & Resources | Solar Energy | Solid and Waste Management |
Recycling | Green Energy and Economy | Ocean Plastics

Session Chair- **Francesco Conte**, University of Genova, Italy
Co Chair - **Ioannis Giavasis**, University of Thessaly, Greece

11:40 - 12:10 Biodegradable Polylactate Films Produced with Nanoprinting and Addition of Antimicrobials for use in Active Packaging
Ioannis Giavasis, University of Thessaly, Greece

12:10 - 12:40 Process for Production of PLLA: Biomaterial for Medical and Cosmetic Applications
Rubens Maciel Filho, UNICAMP-Campinas, Brazil

12:40 - 13:10 Environmental and Economic Assessments of Multiple Biomass Utilization for Bioenergy
Jingxin Wang, West Virginia University, USA

Panel Discussion

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Lunch (13:10-14:10) @ .IT Italian Restaurant

14:10 - 14:40	Green Synthesis of Silver Nanoparticles and their Incorporation into Polymer Matrix Lívia Mačák , Technical University of Košice, Slovakia
14:40 - 15:10	The Growing Reality: Plastic Pollution, Affected Ecosystems and the Role of Education in Mitigation Applications Deniz Vural , TÜBİTAK Polar Research Institute, Turkey
15:10 - 15:40	Carbon Allotropes for Nanocomposites with Lower Environmental Impact Silvia Guerra , Pirelli tyre, Italy
15:40 - 16:10	Study of CaCl ₂ Charge Cycle Investigating the Interaction Between the Particles Size and the Flow Rate for Thermochemical Heat Battery Applications Bahaa Abbas , Swansea University, United Kingdom

Refreshments (16:10 - 16:40) @ Foyer

16:40-17:10	Hot Water Resistant Thermoplastic Starch Regina Jeziorska , Łukasiewicz - Industrial Chemistry Institute, Poland
17:10-17:40	Local Growth of Cu(In, Ga)Se ₂ Micro Absorbers for Micro-Concentrator Solar Cells Setareh Zahedi Azad , Leibniz Institut für Kristallzüchtung, Germany
17:40-18:10	Transition to Renewable Energy Production in the State of Qatar; Case Study of Al-Kharsaa Solar IPP Maha Al-Matwi , Qatar General Electricity and Water Corporation "Kahramaa", Qatar

Panel Discussion

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Poster Presentations

ENERBIO-001	Bio-LNG as a Driving Force for Development and use of Green Energy Technology Grazyna Pazikowska-Sapota , Gdynia Maritime University, Poland
ENERBIO-002	Development of Alkali-Activated Porous Lightweight Concrete based on Municipal Waste Incineration Ash and Metallurgical Slag Gintautas Tamošaitis , Kaunas University of Technology, Lithuania
ENERBIO-003	Bio-Based Expanded Cork Polymer Composites (eCPC) with Poly(Lactic Acid) (PLA) for Injection Moulding Lisete Garrido Moutinho , University of Aveiro, Portugal
ENERBIO-004	Corn Thermoplastic Starch and PLA Toughened Blends Maciej Studzinski , Łukasiewicz - Industrial Chemistry Institute, Poland
ENERBIO-005	Disposable Goods from Modified Thermoplastic Starch Blends Agnieszka Szadkowska , Łukasiewicz - Industrial Chemistry Institute, Poland
ENERBIO-006	A Study on a Diagnostic Module for a Telemetry Circuit of the Passive Components by a Loosely Coupled Coil as Wireless Power Transmission Under Saecs In Npps Kil-Mo Koo , Universal Monitoring & Inspection Inc., South Korea
ENERBIO-007	Utilization of Marine Repair Production Waste Based on Iron Compounds in Greener Engineered Cementitious Composites Algirdas Augonis , Kaunas University of Technology, Lithuania
ENERBIO-008	Development of Energy Saving System in Reverse Osmosis and Sequencing Batch Reactor for using Hydro Energy Hyeonwoo Nam , K-water, South Korea

End of Day 2

Panel Discussion - Awards & Closing Ceremony followed by Vote of Thanks

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Virtual Presentations

November 15, GMT (10:00-15:10)

Oral Presentations

- 10:00 - 10:25 Fabrication and Characterization of Bioplastics from Cassava Starch and Citric Acid-Epoxidized Soybean Oils Oligomers
Jianlei yang, Dezhou University, China
- 10:25 - 10:50 Diversity of Bacteria in Biofilm Developed on the Surface of the Birch Tar - Containing PLA and PLC in the Water Environment
Agnieszka Richert, Nicolaus Copernicus University, Poland
- 10:50 - 11:15 Structural Evolution of Biodegradable Aliphatic Polyesters during Thermally Supported Hydrolytic Degradation
Michal Puchalski, Lodz University of Technology, Poland
- 11:15 - 11:40 Laboratory Platform for Studying Turbulence
Dorina Ticos, National Institute for Lasers, Plasma and Radiation, Romania
- 11:40 - 12:15 Design Hybrid Nano Carrier for Co Enzyme Q10 based on PLGA - Polysorbate 80 using Molecular Dynamics Approach
Maziar Bahreini, Islamic Azad University, Iran
- 12:10 - 12:35 Surface Modification of Biopolymer-Based Foams for Potential Application in Tissue Engineering
Ewelina K. Pabjańczyk-Wlazło, Lodz University of Technology, Poland
- 12:35 - 13:00 Bisphenol A Promotes Breast Cancer Development through Overexpression of GPER-1
Luis Molina, Universidad San Sebastián, Chile

Lunch 13:00 - 13:30

Keynote Presentation

- 13:30 - 14:00 Generation of Energy Evolution for Sustainable Future: Concept for a Holistic Wellness Project
Jayaprada Putrevu, Preserve Life Corporation, USA

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Oral Presentations

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| 14:00 - 14:25 | Assessment Thermal Water Resource of Cretaceous Aquifer in the West Georgia
George Melikadze , Tbilisi State University, Georgia |
| 14:25 - 14:50 | Thermal and Rheological Characterization of Aqueous Nanofluids Based on Reduced Graphene Oxide (rGO) with Manganese Dioxide Nanocomposites (MnO ₂)
María Paz Ramírez Navarro , University of Santiago of Chile (USACH), Chile |
| 14:50 - 15:15 | A Sustainable, Digital, Innovative, Contextualised, and Integrated, Approach Towards Food Consumption and Food Production Entrepreneurship: A South African Eastern Province Vulnerable Community Case Study
Faith Samkange , University of Derby, United Kingdom |
| 15:15 - 15:40 | An Extensive Experimental Investigation for the Hydrogen Potential from Water Electrolytes in the Aspects of its Production and Application in the Main Natural Gas Supply Line
Recep Bakar , GAZBIR-GAZMER, Turkey |
| 15:40 - 16:05 | A Comprehensive Analysis of the Biogas Potential using Urban Waste and Animal - Derived Wastes in Konya, Turkey: Its Production to the Incorporation in the Main Natural Gas Supply Line
Mehmet Serif Sarikaya , GAZBIR-GAZMER, Turkey |

Webinar concludes followed by Vote of Thanks