



# INTERNATIONAL CONFERENCE ON RECYCLING AND WASTE MANAGEMENT



**ICRWM-2026**  
July 23-24 | Vienna

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Mineralogy



Geology



Volcanology



Hydrology



Environmental  
Science



**JULY 23-24,  
2026**



**VIENNA,  
AUSTRIA**

 **Venue: Rainers Hotel, Vienna**









# Scientific Program

## International Conference

Vienna, Austria  
July 23, 2026

### Day-1 (July 23, 2026)

**08:30-09:00**      **Registrations & Opening Remarks**

#### Plenary Forum

**09:00-09:30**

**Title:** Metal catalyzed water oxidation is a key step in artificial photosynthesis

**Prof. Abul Kasem Fazlur Rahman**, Oklahoma School of Science and Mathematics, USA



**09:30-10:00**



**Title:** Critical metals extraction from secondary sources; Valorization of Critical Elements recovery from post-industrial waste

**Prof. Maria Holuszko**, University of British Columbia, Canada

**10:00-10:30 Networking Break + Group Photo**

#### Keynote Presentations (10:30 - 12:00)

**10:30-11:00**

**Title:** Data-driven Atmospheric Model for Weather Process Analysis

**Prof. George L Danko**, University of Nevada, Reno, USA





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11:00-11:30

Title: Health and ecological impacts from improper waste management  
Prof. Syed Hasan, University of Missouri-Kansas City, USA



11:30-12:00

Title: Experimental and Numerical Studies of Breach Evolution Resulting from Piping at Earthen Dams  
Prof. Mehmet Şükrü Güney, Izmir University of Economics, Turkey



### Technical Session-I (12:00 - 13:00)

12:00-12:20

Title: Drivers and impacts of size-resolved atmospheric aerosols in north-eastern Romania: A long-term chemical perspective  
Dr. Cecilia ARSENE, University of Iasi, Romania



12:20-12:40

Title: New frontiers in geothermal exploration thanks to large scale induced polarization and self-potential tomographies  
Dr. Revil André, CNRS, France



12:40-13:00

Title: An Analysis of the Dust Deposition and Other Climatic Parameters on Solar Photovoltaic Modules in Mauritius  
Dr. Dhirajsingh Rughoo, University of Mascarene Islands, Mauritius



13:00 - 14:00 Lunch @ Restaurant



# Scientific Program

## International Conference

Vienna, Austria

July 23, 2026

### Technical Session-II (14:00 - 17:50)



**14:00-14:20**

**Title: Anticipatory Sustainable and Circular-by-Design Material Development - Assessment Framework, Material Concepts, and Development**

**Dr. Jan-Marten Sprenger**, Fraunhofer-Institute for Manufacturing Technology and Advanced Materials IFAM, Germany

**14:20-14:40**

**Title: Production of H<sub>2</sub> and diversified hydrocarbons over rock particles in the presence of H<sub>2</sub>O and carbon compounds**

**Dr. Young Sang Cho**, Korea Institute of Science & Technology, South Korea



**14:40-15:00**



**Title: Experimental assessment of sunlight Radiative Transfer process through complex snowpacks**

**Dr. Luca Teruzzi**, University of Milan, Italy

**15:00-15:20**

**Title: Assessing spontaneous spreading woody plants for climate resilience and applicability**

**Dr. Krisztina Szabo**, Hungarian University of Agriculture and Life Science, Hungary



**15:20-15:40**



**Title: The Impact of Contemporary Climate Change on Groundwater Regimes in the Central Chernozem Region: A Case Study of the "Kamennaya Steppe" Nature Reserve**

**Miss. Valeriia Vediashkina**, Lomonosov Moscow State University, Russia



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### Poster Presentations & Refreshment Break (15:40-16:10)

#### Poster-1

**Title: Waste-To-Energy Materials: Transforming Flotation Effluents Into Advanced Polymer-Metal Nanocomposites For High-Performance Supercapacitors**

**Dr. Atanas Svetoslavov Garbev, IEES, Bulgaria**



#### Poster-2

**Title: Enhanced Nitrate Removal From Wastewater Using Chlorella Vulgaris: Analysis Using Box-Behnken Method**

**Prof. Hee-Jeong Choi, Catholic Kwandong University, South Korea**



#### Poster-3

**Title: From a Depression Cone to the "Olkusz Lake District": A Preliminary Assessment of Environmental Changes Following the Closure of Zn-Pb Ore Mining in the Olkusz Region (Poland)**

**Dr. Anna kostka, AGH University of Krakow, Poland**



### Technical Session-II Continues

#### 16:10-16:30

**Title: Biomass Bottom Ash Valorisation from Fluidized Bed Combustion for Cement and Civil Engineering Applications: A Circular Economy Perspective**

**Dr. Elżbieta Jarosz-Krzemińska, AGH University of Krakow, Poland**



#### 16:30-16:50

**Title: Reinforcement Learning versus PI Control for CO<sub>2</sub>-Based Classroom Ventilation: A Real-Data Benchmark on Fan Electricity and IAQ**

**Dr. Masoud Haddad, University of Vaasa, Finland**





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## International Conference

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**16:50-17:10**

**Title: NVH Improvement of Transmission Electric Oil Pump with Asymmetric Pitch Control**

**Prof. Chinchul Choi**, Changwon National University, South-Korea



**17:10-17:30**

**Title: Engineered Fracture Systems for Robust, Geothermal Energy Recovery**

**Prof. George L Danko**, University of Nevada, Reno, USA



**17:30-17:50**

**Title: Assessing Climate Change Impacts on Low-Flow Extremes in small catchment in Croatia using the SWAT model**

**Dr. Josip Janjić**, Faculty of Civil Engineering and Architecture, Croatia



**Day-1 Concludes**

**Pannel Discussions**







# Scientific Program

## International Conference

Vienna, Austria  
July 24, 2026

### Day-2 (July 24, 2026)

#### Technical Session-III (10:00 - 13:00)



**10:00-10:20**

**Title: Numerical modelling of the long-term behaviour of weathered granular soil structures and rock masses under mechanical and hydro-chemical conditions**

**Prof. Erich Bauer, Graz University of Technology, Austria**

**10:20-10:40**

**Title: Sediments Tell the Story: Environmental Evolution of Wigry Lake Since the Last Ice Age**

**Dr. Anna kostka, AGH University of Krakow, Poland**



**10:40-11:00**

**Title: Methodological Sensitivity of End-of-Life Allocation in Life Cycle Assessment: Implications for Circular Resource Management and Decarbonisation**

**Dr. Viktoria Mannheim, University of Debrecen, Hungary**



#### Refreshment Break (11:00-11:20)

**11:20-11:40**

**Title: A Digital Twin Framework for Closed-Loop Water Management**

**Dr. Gialelis Ioannis, University of Patras, Greece**





# Scientific Program

## International Conference

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July 24, 2026

**11:40-12:00**



**Title:** Identification of the mother body of a two-dimensional uniform vortex

**Prof. Giorgio Riccardi**, University of Campania Luigi Vanvitelli, Italy

**12:00-12:20**

**Title:** Application of the DDM Method for Fabrication of Low-Critical-Material Electrodes for Alkaline Water Electrolysis

**Dr. Elitsa Petkucheva**, Institute of Electrochemistry and Energy Systems, Bulgaria



**12:20-12:40**



**Title:** Mineralogy of the Historic Mining District of Butte, Montana

**Mr. Daniel-Evanich**, Bay Area Mineralogists, USA

**12:40-13:00**

**Title:** Hydrocarbon Prospectivity within Interval "A" of the Villeta Formation in the Putumayo Foreland Basin

**Dr. Revil André**, CNRS, France



**Lunch @ Restaurant (13:00-14:00)**

**Technical Session IV (14:00-17:00)**

**14:00-14:20**



**Title:** Grid-Scale Regional Risk Assessment Using Multi-Source Data: Integrating PMF, health risk assessment, and spatialized emission inventories, and in multi-source composite heavy metal soil pollution

**Prof. Mei lei**, Chinese Academy of Sciences, China



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## International Conference

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**14:20-14:40**

**Title: Application of Machine Learning Techniques in Mineral Resource Estimation: A Case Study with Iron Ore Deposit**

**Prof. Sheo Shankar Rai**, Indian Institute of Technology, India



**14:40-15:00**

**Title: Implementing Environmental Sustainability and The Importance of Community Engagement**

**Dr. Felicia-Gokool**, Together in Unity, LLC, USA



**15:00-15:20**

**Title: The Silent Drain: How Governance Makes or Breaks JV Value Before the Financials Show It**

**Dr. Cornelia Oana Toropoc**, OMV, Austria



**15:20-15:40**

**Title: Smart FPV: Dual-Layered Floating Solar Pontoons with Real-Time Leak Detection via Recycled HDPE #2**

**Ms. Deepika**, Germany



**15:40-16:00**

**Title: Differential core-to-periphery emplacement of mafic magma in an Archean Complex and its implications: An example from Southern Granulite Terrain, India**

**Prof. Mrinal Kanti Mukherjee**, Indian Institute Of Technology (Indian School Of Mines)

Dhanbad, India





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**16:00-16:20**

**Title:** Towards a safe and environmentally sustainable valorisation of post-consumer cotton and polycotton garments

**Dr. Tim Åström**, Stockholm University, Sweden



**16:20-16:40**

**Title:** Smart Adaptive Heating Control for Overheating Mitigation in Nordic Commercial Buildings

**Prof. Amirmohammad Behzadi**, KTH Royal Institute of Technology, Sweden



**16:40-17:00**

**Title:** Greenhouse Gas Emissions from Petroleum Production in Guyana (2019-2030): Implications for the Country's Net Carbon Sink Status

**Prof. Paulette Bynoe**, University of Guyana, Guyana



**Day-02 Concludes**



# Virtual Scientific Program



**Join Zoom Meeting**

**Meeting ID: 898 2588 8646**

**Passcode: Urf@2026**



**Scientific Program**

**International Conference**

**Vienna, Austria**

**July 24, 2026**

**Day-2 Parallel Virtual Session (July 24, 2026)**

**Registrations & Opening Remarks (08:30-09:00)**



**09:00-09:20**

**Title: Can risk-based planning protect women from 'natural' disasters?**

**Dr S Vallance**, Bioeconomy Science Institute, New Zealand

**09:20-09:40**

**Title: Nudging Food Waste Reduction: An Experiment at a University Dining Facility in China**

**Dr. Zhang Yuchi**, The University of Osaka, Japan



**09:40-10:00**

**Title: Assessing the Economy-Wide Implications of the IMO Mid-Term Measures: Evidence from the Republic of Korea**

**Dr. Han-Seon PARK**, KMI, South Korea

**10:00-10:20**

**Title: Health Risk Assessment to Xenoestrogen through Atmospheric PM2.5 Particles: A Case Study in Suzhou**

**Dr. Lei Han**, Xi'an Jiaotong-Liverpool University, China



**10:20-10:50 (Keynote)**



**Title: The Clay Minerals-Based Nanozymes and Their Geological Implications**

**Prof. Shiyong Sun**, Southwest University of Science and Technology, China



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## International Conference

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10:50-11:10



Title: Towards Circular Buildings in Hong Kong: A New Integrated Technology-Material-Design (TMD) Circularity Assessment Framework

Dr. Kin-Sing-Ericson Lau, ESG VISA Limited, Hong Kong

11:10-11:30

Title: Turning Debris into Diesel: Room-Temperature Synthesis of FeO<sub>6</sub>-AlO<sub>6</sub>PO<sub>4</sub>-AlPO<sub>4</sub> Integrated Framework Catalyst for Waste Plastic-to-Diesel Cracking

Prof. Chellapandian Kannan, Manonmaniam Sundaranar University, India



11:30-11:50

Title: Energy Storage and Dissipation at Thermomechanical Processes and Transformations in Shape Memory Alloys

Prof. Osman Adiguzel, Firat University, Türkiye



11:50-12:10

Title: The Role of Mineralogical Studies in Delineating the Recharge Area and Groundwater Circulation of Susuz Springs, Central Taurus Belt, Türkiye

Dr. Mehmet Çelik, Ankara University, Türkiye



12:10-12:30

Title: A New Model of Agate Geode Formation Based on a Combination of Morphological Features and Silica Sol-Gel Experiments

Dr. Charles Brian Howard, Macabee Health Fund, Israel





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12:30-12:50

Title: Mediterranean Salt-Tectonic Supergiant: Salt Distribution and Its Tectonokinematic History

Dr. Galina Belenitskaya, Russian Geological Research Institute, Russia



12:50-13:10

Title: Variscan Heritage and Alpine Reactivations of the Structures of the Boudoufoud Inlier (Rif Foreland, Eastern Meseta, Morocco): Insights  
Dr. Youssef Oubih, University Hassan II casablanca, Morocco



13:10-13:30

Title: Assessment of Water Balance Using the SWAT Hydrological Model in the Oued Cherraa Basin

Dr. Mohammed Laaboudi, Mohamed I University, Morocco



13:30-13:50

Title: Data-Driven Urban Logistics for Carbon Footprint Reduction: The Role of Parcel Pick-Up Points in Sustainable Last-Mile Delivery

Dr. Sirine Adsi & Dr. Kaies Samet, University of Sfax, Tunisia



13:50-14:10

Title: Institutional Quality and Renewable Energy Transition in the European Union: Evidence from Panel Data Analysis

Dr. Mahdi MNASRI, University Paris Cité, France





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**14:10-14:30**



**Title: Design, Optimization, and Experimental Validation of a Photovoltaic-Battery-Packed Bed Thermal Storage Hybrid System for Powering Bedside Medical Equipment in Off-Grid Field Hospitals**

**Houshang Hamidimonfared**, Islamic Azad University of Sciences and Research, Iran

**Mohammad Mehdi Soheili**, Innovation International Zone, Iran



**14:30-14:50**



**Title: Spatial Variability of Sea Level Change: Interactions Between Climate-Driven Rise, Land Subsidence and Urban Loading in Coastal Megacities**

**Mr. Florent Pirot**, Independent Researcher, France

**14:50-15:10**

**Title: Use of forest harvesting residues products for next round - what is amendments to peat for growing of forest seedlings**

**Dr. Dagnija Lazdina**, LSFRI Silava, Latvia



**15:10-15:30**



**Title: Tribo-electrostatic Separation of Polymer Mixtures Containing Brominated Flame Retardants**

**Dr. Lucien Dascalescu**, CNRS University of Poitiers, France

**15:30-16:00 (Keynote)**

**Title: Circular Aromatics from MSPW Sorting Residues: Pyrolysis Char as an Alternative Reforming Agent - Lab-to-Demo Scale**

**Prof. Dr.-Ing. Matthias Franke**, Fraunhofer UMSICHT, Germany





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16:00-16:20



**Title: Breaking Barriers in FAPbI<sub>3</sub> Perovskite Photovoltaics: Synergistic Strategies for Phase Stability, Defect Mitigation, and Scalable Production**

**Dr. John Anyanwu**, ACE in Future Energies and Electrochemical Systems, Nigeria

16:20-16:40

**Title: Paleoproterozoic TTGs from the Southern Gavião Block, São Francisco Craton: Petrogenesis and Implications for Early Crustal Evolution**

**Dr. Nuno M. M. Vieira**, Universidade Federal da Bahia, Brazil



16:40-17:10 (Keynote)



**Title: An Overview of Oil Spill Modeling and Simulation Methods for Fixed and Continuous Flow Rates Under Different Conditions**

**Prof. M. R. Riazi**, Texas A&M University, USA

17:10-17:30

**Title: Bioremediation 4.0: Microbial Consortia Designed for Water Purification**

**Dr. Edgar Omar Rueda Rueda Puente**, Universidad de Sonora, Mexico



17:30-17:50



**Title: Zeolite Synthesis as an Opportunity for Construction and Demolition Waste Upcycling**

**Prof. Gabriela A. Vázquez-Rodríguez**, Autonomous University of the State of Hidalgo, Mexico



# Notes



# Sustainable Earth, Resilient Future



## RENEWABLE

Harnessing clean energy  
for a sustainable tomorrow



## RECYCLING

Reduce, Reuse, Recycle  
for a better world



## GEOLOGICAL SCIENCE

Understanding Earth's past,  
shaping a sustainable future



**JULY-2027**



**LISBON, PORTUGAL**



Together for a  
Sustainable Planet