



ICEGS -2026

July 23-24, 2026 | Vienna, Austria

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EARTH & GEOLOGICAL SCIENCES CONFERENCE

Advancing Knowledge for
a Sustainable Earth

ISBN: 978-1-917892-49-0

PROGRAM BOOK



EARTH SYSTEMS



GEOLOGICAL
PROCESSES



RESOURCES
& MATERIALS



SUSTAINABILITY
& FUTURE

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

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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 H₂ and diversified hydrocarbons over rock particles in the presence of H₂O 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 CO₂-Based Classroom Ventilation: A Real-Data Benchmark on Fan Electricity and IAQ

Dr. Masoud Haddad, University of Vaasa, Finland



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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

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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



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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: Induced polarization and self-potential tomography applied to ore localization and characterization

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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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 Pontoon 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

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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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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: Residential Consumers' Willingness to Pay for Sustainable Grid Resilience Against Climate-Induced Large-Scale Outages of Long-Duration: Evidence from South Korea

Dr. Doyob Kim, Seoul National University of Science and Technology, South-Korea



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: Turning Debris into Diesel: Room-Temperature Synthesis of FeO₆-AlO₆PO₄-AlPO₄ Integrated Framework Catalyst for Waste Plastic-to-Diesel Cracking

Prof. Chellapandian Kannan, Manonmaniam Sundaranar University, India



13:10-13:30

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



13:30-13:50

Title: A Strategic Techno-Economic Assessment of Distributed Photovoltaic Systems Versus Centralized Solar Power Plants for Large-Scale Industries in Iran

Prof. Masoud Rashidinejad, Golgozar Mining & Industrial Company, Iran



13:50-14:10

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



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14:10-14:30

Title: Carbon dioxide sequestration by *Arthrospira platensis* cultivated in seawater-based media

Dr. Christina Vasiliki Lazaratou, University of Patras, Greece



14:30-14:50



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

Dr. Mahdi MNASRI, University Paris Cité, 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: 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

15:30-16:00 (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



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Title: The role of humic substances in the amelioration of saline soils: mechanisms and affecting factors

Maria De Nobili, University of Udine, Italy

16:20-16:40

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

Dr. Mohammed Laaboudi, Mohamed I University, Morocco



16:40-17:00



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

Dr. Lucien Dascalescu, CNRS University of Poitiers, France

17:00-17:20



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



17:20-17:40

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

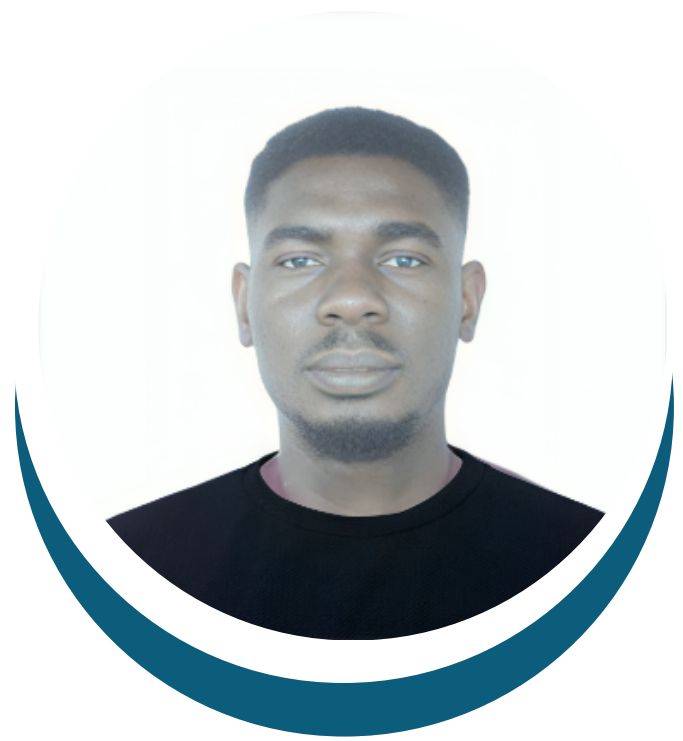


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Title: Breaking Barriers in FAPbI₃ Perovskite Photovoltaics: Synergistic Strategies for Phase Stability, Defect Mitigation, and Scalable Production

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

18:00-18:20

Title: Bioremediation 4.0: Microbial Consortia Designed for Water Purification

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



18:20-18:40



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

Sustainable Earth, Resilient Future



RENEWABLE

Harnessing clean energy
for a sustainable tomorrow



RECYCLING

Reduce, Reuse, Recycle
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GEOLOGICAL SCIENCE

Understanding Earth's past,
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