

Geophysical and Geological Data for Smart City Solutions: Building Safer, More Resilient Communities & Infrastructure

Program

10:00–11:20

Welcome and Presentation of GeoAlliance project

Overview of Geophysics for SMART cities – Florina Chitea

Invited presentation: **Seismic Rapid Early Warning for Smart Cities**, presented by
Constantin Ionescu (General Manager The National Institute for Earth Physics – NIEP)

PLENARY SESSION

11:20–11:40 **The Distribution of Macroseismic Intensities in Romanian Cities – An Important**

Step For Resilient Urban Development – Iren-Adelina Moldovan, Angela Petruța
Constantin, Dragoș Toma-Dănila, Carmen Cioflan, Liviu Manea (National Institute for
Earth Physics)

11:40–12:00 **Tsunami Education and Risk Reduction in the Black Sea Area, Implemented by**

The National Institute For Earth Physics – Raluca Partheniu, Andreea Tolea,
Iren-Andelina Moldovan, Angela Petruța Constantin, Constantin Ionescu (National
Institute for Earth Physics)

12:00–12:20 **Enhancing Urban Resilience: A Multi-Hazard Framework for Addressing Pollution,**

Climate Change, and Seismic Risks in Romanian Metropolitan Areas – Luminița
Mărmureanu¹, Bogdan Antonescu^{1,2}, Dragoș Ene¹, Alexandru Mărmureanu¹, Daniela Ghica¹,
Constantin Ionescu¹ (¹National Institute for Earth Physics; ²University of Bucharest,
Faculty of Physics)

12:20 –12:40 **COFFEE BREAK**



- 12:40–13:00 Enhancing Urban Resilience to Flood Risk through Machine Learning: The Case of M'sila** – Benoudina Nouha Amira¹, Tahmi Sadiq², Florina Grecu³ (¹Institute GTU, ²University of Constantine³ Salah Boubnider, Department of Urban Management Techniques and Environment, ³University of Bucharest)
- 13:00–13:20 Geological and Geomorphological Evolution of Djebel Sidi R'ghis, Oum Elbouaghi, Algeria: Landslide Susceptibility Mapping Using Ahp And Machine Learning Approaches** – Dinar Haythem, Rebouh Nouh, Amer Zeghmar, Yacine Benzid, Faicel Tout, Mansouri ibtisseem (Centre de Recherche en Aménagement de Territoire (CRAT), Algeria; Laboratory (LRNAMS), Larbi Ben M'hidi University, Oum El Bouaghi, Algeria; Laboratoire de Recherche en Hydraulique Appliquée, Département d'Hydraulique, Université de Batna, Algérie)
- 13:20–13:40 Revealing The Geological Secrets of Tebessa (Morsott), North-Eastern of Algeria: An Innovative Morpho-Structural Approach** – Rebouh Nouh, Benabbas Chaouki, Dinar Haythem, Amer Zeghmar, Yacine Benzid, Faicel Tout (Centre de Recherche en Aménagement de Territoire (CRAT), Algeria; Laboratory (LRNAMS), Larbi Ben M'hidi University, Oum El Bouaghi, Algeria)
- 13:40–14:00 Mapping 137Cs Activity in Romanian Soils Using Gamma Spectrometry** – Bianca-Maria Linca^{1,2}, Andrei-Paul Borsos¹, Theodora Gheorghe^{2,3}, Ileana Rădulescu², Rasvan Stochici⁴, Liuba Corețchi⁵ (¹University of Bucharest, Faculty of Physics; ²Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering, Romania; ³National University of Science and Technology Politehnica Bucharest, Department of Analytical Chemistry and Environmental Engineering; ⁴Institute of Geodynamics of the Romanian Academy, ⁵Ministry of Health of the Republic of Moldova, National Agency for Public Health)
- 14:00–14:20 The Use of Natural and Eco-Friendly Materials for Reducing Cr (Vi) in Wastewater** – Theodora Gheorghe^{1,2}, Nicoleta Țugui², Ileana Rădulescu¹, Bianca Maria Linca^{1,3} (¹Horia Hulubei National Institute for Physics and Nuclear Engineering; ²National University of Science and Technology Politehnica Bucharest, Department of Analytical Chemistry and Environmental Engineering; ³University of Bucharest, Faculty of Physics)
- 14:20–14:40 222Rn Activity Concentrations in Bottled Natural Mineral Waters: A Comparative Study Of Carbonated And Non-Carbonated Samples** – Bianca Maria Linca^{1,2}, Andrei Paul Borsos^{1,2}, Alina Catrinel Ion³, Ion Ion³, Rasvan Stochici⁴, Theodora Gheorghe^{1,3}, Liuba Corețchi⁵, Florinela Sirbu⁶, Ileana



28 February 2025

Rădulescu¹ (¹Horia Hulubei National Institute for Physics and Nuclear Engineering; ²University of Bucharest, Faculty of Physics; ³National University of Science and Technology Politehnica Bucharest Department of Analytical Chemistry and Environmental Engineering; ⁴Romanian Academy Institute of Geodynamics Sabba S. Stefanescu; ⁵Ministry of Health of the Republic of Moldova, National Agency for Public Health; ⁶"Ilie Murgulescu" Institute of Physical Chemistry of Romanian Academy)

14:40–15:40 LUNCH

15:40–17:00

KNOWLEDGE-TRANSFER SESSION

- 15:40–16:10 CO₂ Geological storage: site selection, reservoir characterization and assessment – Speaker: Sonia López Kovács (SPE Geothermal Technical Section for Europe)**
- 16:10–16:30 Geo-Storage Potential in Salt Caverns: Romanian Prospects - Iulian Popa, Marius Mocuta (University of Bucharest, Faculty of Geology and Geophysics)**
- 16:30–16:50 Improving knowledge and skills in the use of geothermal energy for renewable energy specialists – Sanda Voinea, Adriana Bălan (University of Bucharest)**

16:50–17:10 COFFEE BREAK

17:10–18:10

PICO SESSION

ROOM 1

Aftershock Probability Forecasting for the 2023 Gorj Oltenia Seismic Sequence (Romania) – Cristian Ghita¹, Bogdan Dumitru Enescu², Iren-Adelina Moldovan¹, Mihail Diaconescu¹, Eduard Gabriel Constantiensu¹ (National Institute for Earth Physics; ² Department of Geophysics, Kyoto University)

Cutting-Edge Technology for Seismic Precursors Monitoring in Vrancea Zone – Andrei Mihai, Victorin-Emilian Toader, Dorel Hirnea, Bogdan Grecu, Mihai Mihalache, Iren Adelina Moldovan, Eugen Curmei, Dragoș Tătaru, Eduard Nastase, Daniel Cioflan, Constantin Ionescu (National Institute for Earth Physics)



Buildings Monitoring – A Useful Action for the Urban Seismic Risk Reduction – Stefan Florin Balan, Alexandru Tigianescu, Bogdan Felix Apostol (National Institute for Earth Physics)

Seismicity characterization in areas with quarry activity for hazard assessment in the South-West Carpathian Bend zone – Raluca Dinescu, Mircea Radulian, Mihaela Popa, Mihai Marius, Ioan Munteanu, Adina Rau, Bogdan Zaharia (National Institute for Earth Physics)

ROOM 2

Impact of Major Trans-Border Historical Earthquakes on Romanian Cities: A Macroseismic Effects Analysis – Angela Petruța Constantin, Mihail Diaconescu, Iren-Adelina Moldovan (National Institute for Earth Physics)

Short-term forecasting for seismic activity based on aftershock sequences – Bogdan Felix Apostol, Carmen Ortanza Cioflan, Catalina Roxana Bratu (National Institute for Earth Physics)

Assessing Hazard Risks in Urban Areas Affected by Mining Activities – Florina Chitea^{1,2}, Nicolae Cruceru^{1,3}, Veysel Isik⁴, Reza Saber⁴, Marc-Andrei Vodă¹, Ayse Caglayan⁵, Marjan Tourani⁴, Mihail Diaconescu⁶, Raluca Dinescu⁶, Lucica Niculae², Alin-Titus Șerban⁶ (¹University of Bucharest, ²“Sabba Ștefănescu” Institute of Geodynamics of the Romanian Academy, Romania, ³“Emil Racovita” Institute of Speleology, Romanian Academy, Bucharest, Romania, ⁴Ankara University, Department of Geological Engineering, Tectonics Research Group, Ankara, Türkiye, ⁵Department of Geological Survey, Ministry of Environment, Urbanisation and Climate Change, General Directorate of Spatial Planning, Ankara, Türkiye, ⁶National Institute of Earth Physics, Romania), ⁷Horia Hulubei National Institute for Physics and Nuclear Engineering).

Geoelectrical Investigations in Bucharest Area – R. Stochici, C. Diacopolos (Institute of Geodynamics, Romanian Academy, Romania)

18:10–18.40 – CLOSING REMARKS

