

20th CARPATHIAN BASIN
CONFERENCE FOR
ENVIRONMENTAL SCIENCES
2–5 April 2025, Cluj-Napoca

PROGRAMME



SAPIENTIA ERDÉLYI MAGYAR TUDOMÁNYEGYETEM
KOLOZSVÁRI KAR

KÖRNYEZETTUDOMÁNY TANSZÉK
400193 Kolozsvár (Cluj-Napoca), Tordai út (Calea Turzii) 4. sz., Románia
<http://kt.sapientia.ro>



Co-organizers



20th CARPATHIAN BASIN CONFERENCE FOR ENVIROMENTAL SCIENCES 2–5 April 2025, Cluj-Napoca

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Dr. Mócsy Ildikó – a konferencia tiszteletbeli elnöke
Dr. Néda Tamás
Dr. Rápó Eszter
Dr. Tamási Erika
Dr. Tonk Szende-Ágnes
Dr. Zsigmond Andreea-Rebeka

Conference Venue

Sapientia Hungarian University of Transylvania
400193 Calea Turzii no. 4., Cluj-Napoca

Hotel Melody
400394 Piața Unirii no. 29., Cluj-Napoca

PROGRAMME

2nd April 2025 (Wednesday)

- 16⁰⁰–20⁰⁰ *Registration, Hotel Melody, ground floor*
18⁰⁰–20⁰⁰ *Welcome party, Hotel Melody, ground floor, „Kallós” hall*

3rd April 2025 (Thursday)

- 8⁰⁰–19⁰⁰ *Registration, B. building, ground floor*
9⁰⁰–9³⁰ *Conference opening, greetings*
 B. building, 1st floor, „Hunyadi Mátyás” ceremonial hall

PLENARY PRESENTATIONS

B. building, 1st floor, „Hunyadi Mátyás” ceremonial hall

- 9³⁰–10⁰⁰ László Miklós
 Slovak Academy of Sciences, Bratislava
 Landscape Ecology, Its Applications, and Environmental Policy
- 10⁰⁰–10³⁰ Mihály Braun*, Zsuzsa Lisztes-Szabó, Albert Tóth,
 Katalin Hubay, Dávid Sóvágó, Ádám Braun,
 Anna Fruzsina Filep
 **HUN-REN ATOMKI, Debrecen*
 Types of environmental changes can be detected on 100, 1000, and 10000 year time scales from the sediments of lakes and bogs?
- 10³⁰–11⁰⁰ *Coffee break*
- 11⁰⁰–11³⁰ János Korponai
 Nemzeti Közszolgálati Egyetem, Budapest
 Sapientia Erdélyi Magyar Tudományegyetem, Kolozsvár
 From past to present: issues in paleolimnology/paleoecology

11³⁰–12⁰⁰ Mihály Molnár*, Balázs Áron Baráth, Tamás Varga, István Major, Sándor Bán, László Haszpra
*MTA, Atommagkutató Intézet, Magyarország
Development of a Gas Handling System for the „HUN” Tall Tower ICOS Air Monitoring Station (Hegyhátsál, Hungary)

12³⁰–14⁰⁰ **Lunch break**, Protestant Theological Institute
Avram Iancu Square 13

ECOLOGY

Chair: János Korponai, PhD
B. building, 1st floor, „Hunyadi Mátyás” ceremonial hall

14⁰⁰–14¹⁵ **Size Condition of Shrub Species in a Hungarian Mixed Oak Forest in 2022**
Tamás Misik

14¹⁵–14³⁰ **Effects of Extreme Water Events on Benthic Diatom Communities**
Stefánia Kiss, Zsuzsanna Kókai, Áron Lukács, István Bácsi, Kamilla Márton, Enikő T-Krasznai, Gábor Borics, Viktória B-Béres

14³⁰–14⁴⁵ **Possible Inhibitory Effect of *Chlorella vulgaris* Green Alga Extract on the Cyanobacterium *Microcystis aeruginosa***
Máté Tibor Aszalós, Milán Riba, István Bácsi

14⁴⁵–15⁰⁰ **Peptide-type Cyanobacterial Metabolites in the Way of Survival – Laboratory Experiments with the Green Alga *Haematococcus lacustris***
Kamilla Márton, Máté Aszalós, Milán Riba, Gábor Vasas, István Bácsi

15⁰⁰–15³⁰ **Coffee break**

15³⁰–15⁴⁵ **Impacts of Water Retention Possibilities on Ecological Networks of Waterbirds Along the Tisza River**
Virág Kutnyánszky, Zsolt Miklós Szilvácsku

- 15⁴⁵–16⁰⁰ Comparative Study of Peat Bogs Based on the Structure of Spider Communities**
István Urák, Erika Tamási, Andreea-Rebeka Zsigmond
- 16⁰⁰–16¹⁵ Spiders (Arachnida: Araneae) as Ecological Indicators: A Comparative Analysis of Arthropod Communities Across Different Forest Types**
Boglárka Opra, István Urák
- 16¹⁵–16³⁰ Bioindication of Air Quality Through the Study of *Hedera helix* Planted in Bus Stops**
Bianka Sipos, Vanda Éva Abriha-Molnár, Dina Bibi, Semonti Mukherjeea, Edina Simon
- 17⁰⁰–19⁰⁰ ROUNDTABLE DISCUSSION: Environmental challenges**
Chair: Ildikó Mócsy, PhD
Hotel Melody, ground floor, „Kallós” hall
- 17⁰⁰–20⁰⁰ Sightseeing with Szilárd Poszet PhD**

ENVIRONMENTAL CHEMISTRY AND PHYSICS

Chair: Ildikó Mócsy, PhD
A. building, 3rd floor, A303 room

- 14⁰⁰–14¹⁵ Atmospheric Carbon Dioxide and Methane Observations in Debrecen: Mole Fraction and Isotope Ratio Measurements During Three Different Seasons**
Balázs Áron Baráth, Tamás Varga, István Major, Sándor Bán, Zoltán Barcza, Thomas Röckmann, Jacoline van Es, Carina van der Veen, Mihály Molnár
- 14¹⁵–14³⁰ Characterization of Biobased Carbon Content and Elemental Composition in Plastic Samples from Hungary**
Klaudia Nikoletta Pap, Zsófi Sajtos, Edina Baranyai, Mihály Molnár, Tamás Tábi, Tamás Varga
- 14³⁰–14⁴⁵ Conifers as indicators of urban air pollution in Cluj-Napoca**
Andreea-Rebeka Zsigmond, Kinga-Amália Vincze
- 14⁴⁵–15⁰⁰ Recharge conditions around Varanasi, India, Revealed by Environmental Isotopes**

László Palcsu, Mariann Kállai, Lajos Illés, Mihály Molnár,
Anikó Horváth, Marjan Temovski, Patel Abhinav,
Prakash Rai Shive

15⁰⁰–15¹⁵ Investigation of Heavy Metals Desorption Enhancement in Low-permeability Contaminated Soils

Tamás Bacsó

15¹⁵–15³⁰ Coffee break

15³⁰–15⁴⁵ Overview of the Pollution Impact of Potentially Toxic Elements in Three European Transboundary Rivers: Sources, Impacts, and Management Strategies

Ahmedin Hiya, Jordán Győző, Zsófia Kovács, Katalin Dudás

15⁴⁵–16⁰⁰ Adsorbable Organofluorine (AOF) Content in the Water and Sediment Phase of the Danube River

Esther Orenibi, Péter Dobosy, Sirat Sandil, Gyula Záray

ENVIRONMENTAL EDUCATION

Chair: Ildikó Mócsy, PhD

A. building, 3rd floor, A303 room

16⁰⁰–16¹⁵ Comparison of Traditional and Large-scale Lowland Farming in the Classroom

Dominik Máté Fabula, Anna Kis, Éva Gerenday, Zsuzsanna Angyal

16¹⁵–16³⁰ One of the Key Competencies of Environmental Education: Spatial Orientation Pilot Measurement Preliminary Results

Szilvia Kárpáti, Brigitta Szászi, László Varga, László Sütő

17⁰⁰–20⁰⁰ ROUNDTABLE DISCUSSION: Environmental challenges

Chair: Ildikó Mócsy, PhD

Hotel Melody, ground floor, „Kallós” hall

17⁰⁰–20⁰⁰ Sightseeing with Szilárd Poszet PhD

4th April 2025 (Friday)

**ENVIRONMENTAL SCIENCES AND STUDIES IN
ENGLISH**

Chair: Eszter Rápó, PhD

B. building, 1st floor, „Hunyadi Mátyás” ceremonial hall

- 9⁰⁰–9¹⁵ Improved Method for 210Po and 210Bi Determination with Liquid Scintillation Counting**
Áron Bálint-Farkas, Robert-Csaba Begy
- 9¹⁵–9³⁰ Study of Sensitivity of Tree Species to the Air Pollution in Vienna**
Dina Bibi, Dávid Tőzsér, Bianka Siposa, Vanda Éva Molnár, Béla Tóthmérész, Edina Simon
- 9³⁰–9⁴⁵ Evaluating Atterberg Limits of Hydrocarbon-Contaminated Clay Soils: A Comparative Study of Literature Data and New Experimental Findings**
Noémi Szász, Andrea Tóth
- 9⁴⁵–10⁰⁰ Traditional Cementation vs. Innovative Biological Methods: A Comparative Review of Soil Improvement Practices**
Sirine Trabelsi, Andrea Tóth, Tamás Kántor
- 10⁰⁰–10¹⁵ Modelling Soil Moisture Dynamics for Informed Sustainable Land Management and Water Retention Interventions**
Neliswa Mthethwa, András Makó, Magyar Tamás, Péter Tamás Nagy, Zsolt Kozma
- 10¹⁵–10³⁰ Research on Optimizing Conditions for Mineral Carbonation of Gypsum in Ammonia Solution with Butanediol**
Temesgen Abeto Amibo, Donata Konopacka-Łyskawa
- 10³⁰–10⁴⁵ Water Regime and Ecosystem Restoration Strategies: A Case Study of the Little Danube River System in Slovakia**
Viktória Miklós
- 10⁴⁵–11⁰⁰ *Coffee break***

AGRICULTURE AND ENVIRONMENT

Chair: Éva Abod, PhD

B. building, 1st floor, „Hunyadi Mátyás” ceremonial hall

- 11⁰⁰–11¹⁵ Can the Effect of Mycotoxins on Condition Be Recognized Through Simple Field Studies in the Populations of Roe Deer and Brown Hare in Hungary?**

Adrián Antal, Máté Maurer, Győző Horváth, Adrienn Horváth, Dániel Tóth, Zsuzsanna Szőke, László Szemethy

- 11¹⁵–11³⁰ The Impact of Mycotoxins in Our Environment: Are Natural Populations in Danger?**

Máté Maurer, Adrián Antal, István Lakatos, Szilvia Stranczinger, Zsuzsanna Ferencziné Szőke, László Szemethy

- 11³⁰–11⁴⁵ Short-term Effects of Different Biochar Doses on Pea Test Plant Under Laboratory Conditions**

Tímea Szőke, Éva Abod

- 12³⁰–14⁰⁰ Lunch break, Protestant Theological Institute**

Avram Iancu Square 13

ENVIRONMENTAL GEOLOGY AND GEOGRAPHY

Chair: Sütő László, PhD

B. building, 1st floor, „Hunyadi Mátyás” ceremonial hall

- 14⁰⁰–14¹⁵ Examination of Weathering in Loess-Paleosol Profiles from Nagymaros and Zebegény**

Csilla Király, József Szeberényi, Fruzsina Gresina, Gergely Jakab, Péter Kónya, István Viczián, Máté Karlik, Zoltán Szalai

- 14¹⁵–14³⁰ Construction and Testing of a Water Balance Model on Small Hilly Watershed**

Imola Gömbös

- 14³⁰–14⁴⁵ Erosion of Hiking Trails in the Bükk Mountains**

Martin Virág, Sándor Molják, László Sütő

14⁴⁵–15⁰⁰ **Analysis of the Southeastern Region of Cluj-Napoca from 2017 to 2024, Utilizing Radar Imageries and Insights Gathered from Field Observations**
Anna-Hajnalka Kerekes, Szilárd Poszet

15⁰⁰–15³⁰ ***Coffee break***

15³⁰–17⁰⁰ **POSTER PRESENTATIONS**
Chair: Tamás Néda PhD
B. building, 1st floor, foreground of the „Hunyadi Mátyás” ceremonial hall

19⁰⁰ ***Conference Dinner*** at „Mikó” Restaurant
Clinicilor street 23

POSTERS

Assessing the Impact of Traffic on the Dust Deposition and Chlorophyll Content of Tree Leaves

Vanda Éva Abriha-Molnár, Bianka Sipos, Edina Simon

Risk Assessment of Urbanization with White Mustard (*Sinapis alba*) Seeds

Fanni Zsófia Bárány, Dávid Tózsér, Bianka Sipos, Vanda Éva Abriha-Molnár, Béla Tóthmérész, Tibor Magura, Herta Czédli, Edina Simon

²¹⁰Pb dating method: applicability and limitations

Robert-Csaba Begy

Study of the Home-range of the Pannonian Root Vole (*Alexandromys oeconomus mehelyi*) in Sedge and Reed Habitat

Bence Gosztonyi, Máté Szünstein, Győző Horváth

Development of an Automated Sample Preparation Method for AMS C-14 Measurement of Bio Fuels

Levente Hársasi, Réka Hegedűs, Gergely Orsovszki, Róbert Janovics, Mihály Molnár

Functional Diversity of the Food Composition of Three Regional Western Barn Owl (*Tyto alba*) Populations

Adrienn Horváth, Csenge Csizmazia, Sarolta Hajdu, Győző Horváth

Radiocarbon Analysis of the Loess-paleosol Section in Süttő (Hungary)

Titanilla Kertész, Botond Buró, A.J. Timothy Jull, Erzsébet Horváth, Gabriella Bartha, Mihály Molnár

Effect of phytohormone-producing, salt-tolerant bacterial isolates on maize plant growth

Szidónia Nagy

Community-level Response of Small Mammals in a Marshland Habitat

Henriett Pisch, Krisztina Kelemen, Boldizsár Szűcs, Győző Horváth

Spatial Distribution of Karstification Intensity in the Area of the Aknaszlatina Salt Mine

Sándor Gönczy, Krisztián Kinárov, László Sütő, Dénes Szedlák

***Ginkgo biloba* and its Pigments as Potential Bioindicator to Assess the Level of Air Pollution**

Semonti Mukherjee, Dina Bibi, Bianka Sipos, Vanda Éva Abriha-Molnár, László Orlóci, Szilvia Kisvarga, Viktor Oláh, Béla Tóthmérész, Tibor Magura, Edina Simon

Examining Movement Patterns of the Pannonian Root Vole (*Alexandromys oeconomus mehelyi*) Using Automated Radiotelemetry System

Máté Szűnstein, Bence Gosztonyi, Dániel Tóth, Anna Takács-Soós, Boldizsár Szűcs, Győző F. Horváth

Environmental Risks and Possibilities of Tetracycline in Phytoremediation

Szilárd Székely-Varga, Eszter Rápó, Szende-Ágnes Tonk

Changes in the Small Mammal Community of an Agricultural Parcel Bordered by a Forest During the Period of Winter Wheat and Post-harvest Regreening

Anna Takács-Soós, Júlia Szabó, Hanka Poór, Győző Horváth

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