

PROGRAM

MONDAY 19th JUNE 2023

17:00 – 18:00 Registration

18:30 Welcome drink

TUESDAY 20th JUNE 2023

Opening ceremony – 10:00 – 10:45

Keynote speakers 10:45 – 12:00

10:45 Possible policies and actions to protect the soil cultural and natural heritage of Europe

(Costantini)

11:15 Soil Erosion Monitoring of Agricultural Land of Czech Republic (Pavlík, Hřebíčková, Kapička, Šarapatka, Dumbrovský, Bednář)

11:45 – 12:00 Discussion

Lunch

Session: ANALYSIS OF SOIL AND WATER PROTECTION ON A GLOBAL AND LOCAL SCALE

13:15 Understanding and mitigating extreme diffuse pollution from Norwegian agricultural watersheds. (Confesor, Øygarden, Bechmann)

(Lectures marked in bold are introductory lectures in individual thematic blocks)

13:35 Topography-based detection of Ephemeral Gullies suitable for protection by Grassed Waterways in Eastern Austria (Brunner, Schmaltz, Steger, Strauss)

13:50 Ephemeral gullies and its characteristic in conditions of the Czech Republic (Dumbrovský, Sobotková)

14:05 Comparison of the Physical Properties of Soils on Transverse Profiles along the Gullies (Živanović, Rončević, Čorluka, Čebašek, Rupar)

14:20 Natural and bio-technical water retention measures in the Švihov reservoir catchment – watershed management, researchers, designers and farmers work together (Zajíček, Fučík, Hejduk, Kvítek)

14:35 – 15:00 Discussion

15:00 – 15:30 Coffee break

15:30 The effect of concentrated flow on sediment and nutrient retention in vegetated filter strips (Schmaltz, Ramler, Strauss)

15:50 Impact of climate change on erosion processes (*Podhrázská, Kučera, Karásek, Pochop*)

16:05 Erosion modelling in Norway: changing needs and opportunities (Barneveld)

16:20 – 16:30 Discussion

16:30 – 17:30 Poster session

19:00 Social evening

WEDNESDAY 21st JUNE 2023

Session: ANALYSIS OF SOIL AND WATER PROTECTION ON A GLOBAL AND LOCAL SCALE

9:00 Changes in soil fauna (Acari: Oribatida, Mesostigmata; Nematoda) communities in Scots Pine (*Pinus sylvestris* L.) forests across S-N European gradient (Kamczyc, Pers-Kamczyc, Wierzbicka, Dobies, K. Urbanowski, Malica, Skorupski, Oleksyn)

9:20 Tolerance of ectomycorrhizal mycelium of *Paxillus involutus* exposed to Pb (Szuba)

9:35 Vegetation growth dynamics in the water level fluctuation zone of the Three Gorges Reservoir and its responses to habitat stressing (Rao, Tang)

9:50 Precious Soil and Water Resources – Sustainable Land Management (Zlatic)

10:05 – 10:20 Discussion

10:20 – 10:50 Coffee break

Session: RESEARCH INTO THE IMPACT OF ANTHROPOGENIC AND NATURAL INFLUENCES ON SOIL AND WATER FROM THE POINT OF VIEW OF PRODUCTION AND NON-PRODUCTION

10:50 Possible hazards associated with the use of wastewater and sludge from wastewater treatment plants in agriculture (Kodešová, Švecová, Klement, Fér, Fedorova, Nikodem, Grabic)

11:10 Economic Effects of Applying the Future Agricultural Production Structure Model (FAPSMS): The Case of Barička River Basin (Tričković, Rončević, Živanović, Grujić, Stefanović, Jovanović, Zlatic)

11:25 Methodology to quantify the global agricultural crop footprint including soil impacts (Ascaso, Palacino, Valero, Valero)

11:40 The Effects of Water Erosion on Soil Properties and Crop Yield in a Highly Exploited Agricultural Area of South Moravia, Czech Republic (Šarapatka, Bednář, Černohorský)

11:55 – 12:15 Discussion

Lunch

13:30 How effective are undersown crops and strips-tillage at mitigating soil erosion and pesticide

transfer in maize crops? Results and insights from field trials (Clement, Bielders, Degré, Manssens, Foucart, Pigeon, Blondel, Huyghebaert)

13:45 Impact of plastic pollution on the quality of arable soils in the Sava and Danube river valleys (Saljnikov, Grujić, Jovković, Stanković, Krnjajić, Marjanović)

14:00 Soil organic carbon stock in a Colluvisol profile: application of hyperspectral imaging to study soil organic carbon variability in a deep soil profile (Reyes Rojas, Žížala, Matoušková, Zádorová)

14:15 Forest logging residues as an important source of nutrients and carbon sink on the clear-cuts area (not only) after the bark beetle calamity (Šrámek, Fadrhonsová, Neudertová Hellebrandová, Novotný)

14:30 Application of biochar in a Chernozem in northern Kazakhstan: effects on soil properties and spring wheat yield (Lo Papa, Toktar, Conte, Shayakhmetova, Bakirova, Ahmetov, Mukanova, Balakhmetova, Dazzi)

14:45 Development of soil organic carbon stock on agricultural soils of Slovakia (Barančíková, Koco, Makovníková, Halas, Skalský, Kobza)

15:00 – 15:20 Discussion

15:20 – 15:40 Coffee break

NATIONAL AND INTERNATIONAL GOALS, STRATEGIES AND DIRECTIONS FOR SOIL AND WATER CONSERVATION FROM THE POINT OF VIEW OF PRESENT AND FUTURE GENERATIONS

15:40 UNCCD - the Rio Convention for binding the issues with soil and water conservation (Houšková)

16:00 Watershed Health Monitoring-based Strategy: A Tool for Watershed Adaptive Management (Sadeghi, Meisina, Maeker)

16:15 Living labs and lighthouses lead towards healthy soils in Europe (Sobocká)

16:30 Strategy and priorities of soil cover development research and monitoring in Slovakia (Kobza)

16:45 – 17:00 Discussion

17:00 – 18:00 Poster session

19:00 Meetings of ESSC, Czech Society of Science, Societas Pedologica Slovaca, etc.

THURSDAY 22nd JUNE 2023 – PROFESSIONAL EXCURSIONS

FRIDAY 23rd JUNE 2023

Keynote speakers

9:00 Mapping of soil-based ecosystem services and soil threats of European arable lands – A systematic review and new approaches (Reyes Royas, Coblinski, Cornu, Piccini, Saby, Vašát, Borůvka)

9:30 Changing paradigms in combating desertification. A perspective from Mediterranean Europe (Rubio)

10:30 Forest soils of the Czech Republic – current state and change expected after the bark beetle outbreak (Šrámek, Borůvka, Neudertová Hellebrandová, Vašát, Sáňka O., Fadrhonsová, Novotný, Sáňka, M.)

10:30 A win-win strategy for consolidating soil awareness in politics and reaching an effective soil governance in society (Dazzi, Lo Papa)

11:00 – 11:30 Discussion

11:30 – 12.30 Conclusion and Closing Ceremony

Lunch

POSTER PRESENTATIONS

SESSION: ANALYSIS OF SOIL AND WATER PROTECTION ON A GLOBAL AND LOCAL SCALE

The Potential of Hyperspectral Aerial Surveys for Identifying Waterlogged Areas in Agricultural Landscapes (Bednář, Netopil, Šarapatka)

Enhancing direct runoff estimates through modification of the NRCS-CN method (Caletka, Drbal, Fučík)

Evaluation of the agroecosystem service potential - regulation of the soil erosion (Pálka, Makovníková)

Drop Size Generated by Dripping Rainfall Simulators for Soil Research—Review (Rončević, Živanović, H. van Boxel, Iserloh, Štrbac, Kašanin-Grubin, Antić)

Measures for water retention in landscape in the Czech Republic (Štěpánková, Dzuráková, Osičková)

Interactive effects of wind velocity and slope gradient on splash erosion (Kallehouei, Sadeghi, Khaledi Darvishan)

Long-term agrochemical testing of agricultural soils related to natural and socio-economic conditions of Czech Republic (Houška, Šipoš, Kaláb, Vašát, Pavlů, Penížek, Bednář, Václavík, Šarapatka, Borůvka)

Monitoring of soil properties and groundwater level in alluvial floodplain forest (Sedlák, Pospíšilová, Prudil, Basu)

Multi-level nitrogen balance at temperate forests in the territory of the Czech Republic (Samec, Rychtecká, Sirota)

Migration of organic carbon and Ca in soddy-podzolic soil limed by chalk: laboratory trial (Litvinovich, Lavrishchev, Bure, Zhapparova, Aisakulova, Saljnikov)

Potentially toxic elements in agricultural soils in the Czech Republic – state and development (Poláková, Reininger, Kubík)

A study of salinization of agricultural soils in the Maisky district of the Pavlodar region of Kazakhstan, using remote sensing data (Rakhmanov, Šarapatka, Alibekova, Hekera, Černohorský, Bednář, Smanov)

Response of soil chemical and biochemical properties to biochar and (biochar + compost) application under Zea mays in a degraded environment (Notario Del Pino, González Correa, Raya Ramallo, Arco Lázaro, Haroun Tabraue)

Impact of black cherry (Prunus serotina Ehrh.) on soil mites (Acari: Mesostigmata) in Scots pine (Pinus sylvestris L.) stands growing on post-agricultural lands (Malica, Urbanowski, Raczka, Skorupski, Kamczyc)

Determination of soil losses by wind erosion to support proposals for optimal measures to protect soil from wind erosion (Kučera, Podhrázká, Blecha)

SESSION: RESEARCH INTO THE IMPACT OF ANTHROPOGENIC AND NATURAL INFLUENCES ON SOIL AND WATER FROM THE POINT OF VIEW OF PRODUCTION AND NON-PRODUCTION

Byzantine agricultural terraces and their impact on soil conservation water distribution and fruit trees growth in the central Negev Highlands desert south Israel (Ashkenazi, Chen)

Degradation of traditional vineyards in Slovakia by abandonment and soil erosion: A case-study of Vrábce viticulture district, Slovakia. (Lieskovský, Kenderessy)

Soil cover change since Systematic Agricultural Soil Survey in the 1960s – Czech Republic (Pavlů, Penížek, Zádorová, Žížala, Houška, Borůvka)

Soil cover around the world's deepest flooded abyss near Hranice (Vlček, Šimečková, Oppeltová, Sedláček, Geršl)

Updates in the land evaluation of the agricultural land fund of the Czech Republic (Blecha, Pavlík, Hřebíčková)

Climate regulation ecosystem services in selected regions of Slovakia (Makovníková, Pálka, Kološta)

Changes in watershed sustainability due to air pollution (Mirchooli, Zabihi Seilabi, Sadeghi)

Vertical distribution of radionuclides in soil and its effect on groundwater vulnerability (Kratina, Juranová, Marešová, Sedlářová, Kadlecová, Novák, Pohlová, Datel)

The influence of different tillage methods in the interrow of vineyards on soil erosion (Čížková, Zemánek, Burg)

Effects of Inoculation of Soil Microorganisms on Organic Matter, Stability of Aggregates and Soil

Available Phosphorus under Freeze-Thaw Cycle (Gharemahmudi, Sadeghi, Najafinejad)

Do soil properties reflect the changes in a forest stand structure? A case study from the primeval beech forest in Havešová, Slovakia (Židó, Šumichrast, Kucbel, Gömöryová)

Changes of chemical properties and carbon stock in forest soils after clearcutting. (Fadrhonsová, Šrámek, Novotný, Tejnecký, Valtera)

The effect of forest management on physico-chemical properties of sandy soils (Gömöryová, Židó)

Relationship between forest management and soil water content dynamics as a forest ecosystem services factor (Homolák, Kašiar)

Soil development on metamorphic rocks in the conditions of protected and anthropogenically affected areas of forest ecosystems (Žigová, Šťastný, Mikysek)

The Effect of Whey-Based Hydrogel Addition on Soil Water Holding Capacity and Availability of Nutrients (Čechmánková, Skála, Horvátová, Vácha)

Chemical changes in Chernozems as affected by water erosion (Pospíšilová, Boturová, Plisková, Menšík)

Pesticides in soil and water in chosen agricultural catchments in the Czech Republic (Konečná, Karásek, Zajíček, Nováková, Sážka, Halešová)

Preliminary results of the geochemical, hydrogeological and pedological study of the Javoříčko-Mladeč karst area (Novotný, Novotná, Kryštofová, Hadacz, Baldík, Buriánek, Rez, Sedláček, Janderková, Müller)