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Dear Madam Chair, Mr. Chairman, Esteemed Colleagues,

It is my honour and pleasure to welcome you to Eszterházy Károly Catholic University. A university with 250 years of history, dedicated throughout its existence to the service of higher education, and consistently maintaining a high standard of teaching, education, and research.

This institution was once home to an episcopal academy of law, and it was here that János László Pyrker, Archbishop of Eger, established the first Hungarian-language Teacher Training College in 1828.

Count Károly Eszterházy, a university-building bishop of profound faith and great intellect, envisioned *Pro scientiis et artibus*—"For the benefit of sciences and arts"— when he built the university building where we are now gathering. This motto continues to guide us today.

I am proud to say that, in fulfilling his dream, we now operate as a Catholic university with five faculties where the love and cultivation of sciences and arts thrive.

Eszterházy Károly Catholic University is a key institution serving as the intellectual and knowledge hub of the region, contributing to its cultural and economic development.

Our practice-oriented teacher training is internationally recognized. One of our outstanding achievements is the Complex Basic Program, developed by our academic community. This program guarantees that learning and teaching are enjoyable experiences. Known as Élménysuli ("Experience School"), the program now includes 600 schools, 12,000 trained teachers, and 220,000 students.

Our educational activities are rooted in the university's long-standing traditions while maintaining a modern and versatile approach. For instance, **our viticulture and oenology programme** is internationally competitive. Our top students can spend a year studying in Bordeaux, gaining hands-on experience in various French wine regions. Upon graduation, they earn dual diplomas—Hungarian and French.

The wines of our **ACADEMIA University Vineyard** currently reach consumers under the Studium, Classic, and Superior wine selections. I invite you to taste them during your stay.

Starting in 2021, our students in the English-language *Master's Program in Software Engineering* can also earn a dual degree through a joint program with Johannes Kepler University in Linz.

Our Faculty of Informatics holds a prominent position in the national higher education rankings, and other successful areas include trainings at our Faculty of Humanities and Arts, Institute of Sports Science, and Faculty of Economics.

In addition to education, our research activities and **regional roles** are significant. Feedback from our partners highlights the impact of our InnoRegion Knowledge Centre, Information Technology Development Centre, and Health and Sports Science Knowledge Centre.

Most recently, we are proud to be involved in the **LIFE project** related to the European Union's environment and climate programme, which focuses on the decarbonisation of the Mátra Power Plant and related activities. Our university is responsible for awareness-raising and coordinating consortium partners. The Coal Region Committee Secretariat was also established at our university as part of this project.

Our university's development is further demonstrated by our inclusion in the **QS** European rankings last year, placing us among Europe's top universities.

In the *Times Higher Education (THE)* Impact Rankings, we achieved notable placements in two categories last year and four this year: Protecting Land Ecosystems, Eradicating Poverty, Combating Climate Change, and Quality Education.

For the first time, we have also appeared in the **UI Green Metrics** that is the *International Rankings of green universities*.

Our **Institute of Geography and Environmental Sciences** offers high-quality education. Its teaching and research aim to describe, study, and analyse landscapes from various perspectives.

In our geography bachelor's and undivided teacher training programs, we emphasize the synthesis of traditional landscape geography beyond regional geoscience foundations.

In addition to teaching the basics of geography, our geography undergraduate and one-tier teacher training courses use traditional landscape geography frameworks for synthesis beyond the regional level.

Our master's students gain specialized knowledge in landscape assessment, environmental quality evaluation, and landscape and environmental planning.

Landscape research and anthropogenic landscape formation are significant at our institution, not only as course topics but also through important research and development projects we have implemented. We conducted complex risk and resource mapping in Eger-Bükkalja a couple of years ago, exploring renewable resource utilization.

We explore, remotely sense, laser-scan, and study the landscape, but it is more than just a map to us. We are in daily contact with the landscape's users—vineyard owners, foresters, and producers—and assist in creating and developing region-specific products.

We have actively supported initiatives such as the **Bükkvidék Geopark**, which sustainably leverages the geological features of the surrounding landscape for tourism.

We survey, process through remote sensing techniques, research, make use of, and admire the landscape, embracing the timeless marvel of Creation, the Ineffable...

The contemporary British journalist Tim Marshall writes about landscapes:

"The landscape we live in has always shaped humans. It has influenced wars, power, politics, and the social development of groups across the globe. While technology seems to bridge the physical and intellectual divides between peoples, it's easy to forget how much the land we live, work, and raise our children on matters. And the choices made by the leaders of the seven billion inhabitants of our planet (which, as of January, has exceeded 8 billion) are still shaped to some extent by rivers, mountains, deserts, lakes, and seas that set boundaries for us all – as they always have."

Today, at this conference you will present your valuable and multifaceted work in landscape research.

I am delighted that this outstanding event is being held in such a worthy environment, at Eszterházy Károly Catholic University.

Wishing you a productive and rewarding conference.

ABSTRACTS FOR PLENARY PRESENTATIONS

Prof. Dr. Miklós, László – The winding (life) path of the Selmec Ancsa narrow-gauge railway

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Transport has always been a persistent pain point for mining in Selmecbánya (today Banská Štiavnica, Slovakia), and it continues to be so to this day. The solution – at least temporarily – was meant to be the narrow-gauge railway. Its length, including the connection to the Hungarian Northern Railway at Garamberzencze (Hronská Dúbrava), was 22,895 meters, traversing mountainous terrain with elevation differences ranging from 263 to 562 meters above sea level, featuring the most challenging serpentine section between Bélabánya (Banská Belá) and Selmecbánya (Banská Štiavnica). The railway was ceremonially inaugurated on August 10, 1873. The final cost amounted to 1,044,096 gold forints, which was 21,936 gold forints over the approved budget. The railway operated at a constant loss, allegedly due to incorrect accounting by the Hungarian State Railways (MÁV). A significantly smaller quantity of goods (approximately five times less) was transported than initially anticipated.

On October 30, 1949, the Youth Railway was completed with standard gauge, marking the end of transport on the narrow gauge. There were initiatives to connect the railway to the Léva (Levice) line, which has yet to materialize and is unlikely to do so in the future. Currently, the railway is underutilized, and there have been multiple attempts to discontinue passenger services.

What remains of the narrow-gauge railway is primarily nostalgia. The lead steam locomotive's nickname, the Selmec Ancsa, has survived, but the locomotive itself no longer exists. One of the four steam locomotives, the Katka, which is 140 years old, still operates on the Csermely Children's Railway in Košice. Among the seven Selmec wonders, the Kisýhíbel aqueduct remains, along with jokes and anecdotes about the railway's "speed" and the legendary free rider, a miner known as Nácko. The steam imitation pushed by hand at the end of the Salamander train journey and the beautifully carved wooden miner's Bethlehem, where the Ancsa is also present, have endured. All of this is worth seeing.

On the other hand, what is being revived on the original track is the under-construction bicycle path, which leads through stunning landscapes and where remnants of the old railway infrastructure can still be spotted here and there.

Prof. Dr. Fekete, Albert – Water features in historic gardens

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The paper aims to give an overview about the most relevant water features in historic gardens from ecological, economical and compositional point of view, and their development during the centuries in the mirror of social and climatic changes.

The paper analyses the most characteristic water features of castle gardens from Carpathian Basin, from its very early period (late renaissance) until the turn of 19/20 centuries.

The presented facts are based on the results of a comprehensive research of the Transylvanian castle gardens. Beside the archival research of these gardens in charge, in the period between 2003-2023 – with involvement of a considerable number of experts and students – 150 castle gardens were investigated on site as well. The site survey proved that 103 of these gardens still nowadays are in a strong interdependence with some natural water sources, which deeply influence their use, artistic value and development possibilities. The study shows, that the reason of the hydro-system's depreciation in castle gardens in The Carpathian Basin during the last two centuries is not only the climate change and the drought caused by the climate change, but the increased industrial and agricultural consume, and the forced river regulations are also important promontors of this problem.

Analysing water systems in time and space helps to understand its importance and multiple use in the garden.

The water is a natural element that is extremely dynamic and mobile, so it is very important to study the water systems in a holistic way, not only in the garden to be restored, but in its wider environment, extending it to the entire catchment area, if possible.

This type of approach is especially important for those sites that are located on the banks of larger rivers and watercourses, have physical connections with them.

The research - with the help of several case studies - sheds light on some key problems and main challenges related to the restoration of water elements in historic environment, and their possible solutions and alternatives.

THE HISTORY OF LAND USE

Chair: Prof. Dr. Majdán, János

Majdán, János – The geographical background of the multi-stage construction and operation of the Danube Dráva Railway

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The privately built but later state owned (MÁV) railway lines are in two geographically distinct sections. To the west from the city of Dombovár is a plain to the east there is hill railway section. These two separate lines are still visible despite time and modernization.

Fejér, László Jenő; Szlávik, Lajos – KISKÖREI Reservoir to Tisza Lake - The transformation of the lowland landscape in the Central Tisza Region

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The Hydroelectric Power Station of Kisköre was inaugurated on May 16, 1973. The presentation briefly outlines the past fifty years of the power station and the flow-through reservoir it created (Lake Tisza) highlighting its role in the life of the Great Plain and the transformation of the landscape in the Middle Tisza Region. Lake Tisza complexly provides the characteristics of both a large water body and the ancient Tisza landscape. Thanks to this mosaic quality, it has exceptional potential for showcasing and presenting natural values, making it a significant asset for ecotourism as well. The ecological corridor built in Kisköre in 2014, which provides a passage for fish, has created an effective longitudinal ecological connection in the river. Lake Tisza is listed as part of the Hortobágy National Park on the UNESCO World Heritage List, highlighting its important role in preserving former natural conditions.

Szlávik, Lajos; Fejér, László Jenő – Digital Knowledge Base for Water Management, as the educational and research database for landscape change processes

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The Digital Knowledge Base for Water Management (VDT) offers an unparalleled collection of professional information for students, educators, researchers, and professionals working in higher education. It includes professional journals, specialized books and manuals, a water management dictionary, as well as a video and audio archive featuring life history interviews with renowned water management experts, archived professional films, and more. The VDT is the result of ten years of development work from 2013 to 2022. The presentation will outline the background and history of the VDT's creation, its content structure, the process of uploading professional materials, usage guidelines, potential applications, and how the database supports research and education on landscape change processes.

Dancs, Réka Rebeka – Rice Field or Pedal Boat – The Dilemmas of Landscape Transformation in the *Fertő Region* in the 1930s

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Up until the end of the 20th century, it was generally accepted that society views its environment as a natural resource: besides its economic function and aesthetic value, it also offers a great opportunity for leisure activities. Compared to the often quite cold mountain lakes in Austria, even in summer, the quickly warming waters of Lake Neusiedl (Fertő-tó) provided a pleasant recreational opportunity for visitors as early as the first decades of the 20th century. Due to the gradually warming water temperature and decreasing water levels, Vienna's humourists quickly began referring to the lake not as the "Meer der Wiener" but as the "Moor der Wiener." The issue, which had become a public concern even at a Central European level, was monitored by both daily newspapers and scientific journals: regarding the "*Neusiedlersee Problem*," public opinion was divided into two camps: one side called for the drainage of the lake, while the other side advocated for the retention and regulation of its water. To address the growing social tension, two debate sessions were held in June 1933, where, alongside Austrian researchers, representatives of the Hungarian scientific community also spoke.

Nowadays, the issue of Lake Neusiedl is again on the agenda. This study, with the help of Lajos Varga's notes from the debate, outlines how an event that could even be defined as an environmental catastrophe would have transformed the landscape of the Carpathian Basin, as well as the cultural triangle between Vienna, Bratislava, and Budapest in the 20th century?

Varga, Anna – The landscape historical examination of the separation of pastures and forests in the 19th century in Southern Transdanubia

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As part of the land reform, the separation of forest and pasture can be considered one of the most significant changes in land use that occurred during the 19th century. In my research, I examined legal documents and maps related to land reform in settlements in the Southern Transdanubia Region, focusing particularly on changes related to pasture management. Based on the reviewed documents, it can be concluded that the process, timing, and nature of the separation of forest and pasture varied from settlement to settlement. Still, its effects have had a decisive influence on land use conditions in the 20th century and in the present day.

Martus, Nikoletta – The emergence and the landscape-shaping effect of viticulture in Tolna County in the Arpadian period

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Viticulture was an important factor in the economy of the Kingdom of Hungary during the Arpadian period. Tolna County is a special example of this, and its abundant sources make it suitable for a more detailed study of landscape transformation.

In this study, I will examine, based on sources and the relevant literature, the landscape-changes that can be linked to viticulture, as well as the role played by the development of the vine hill in the environment of Tolna County. I will also look at the pilgrims' route through Tolna County. I will examine the economic activity of the ecclesiastical institutions – which supposedly emerged around the pilgrims' route – and the landscape-shaping effects of the spreading viticulture.

NATIONAL AND LOCAL HISTORICAL LANDSCAPE VALUES

Chair: Prof. Dr. Pap, Norbert

Pap, Norbert – Mohács, 1526 - Battlefield, commemorative landscape.

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The site of the Battle of Mohács has been a subject of intense debate for about one hundred years. There are significant contradictions between the geographical references in primary sources related to the battle and the current environmental characteristics of the battle site and several other presumed locations. The features of the battlefield have changed considerably over the past 500 years; historians researching the battle have struggled to identify the sites of the events, as they have lost their historical characteristics and become unrecognizable today. Other competencies are also needed; source analysis alone is insufficient for the task. Furthermore, the battlefield has transformed into a landscape of memory, influenced by folk traditions, literature, and political communication. Thus, not only natural processes and human land use but also memory politics have contributed to the difficulty in reaching a consensus today regarding the prominent locations of this significant historical event. We are three years away from the 500th anniversary, and preparations are underway to mark the memorial points and create a modern interpretation. The transformation of the history of the landscape around Mohács has become not only a scientific issue but also a matter of development policy.

Rezsabek, Nándor[1]; Dobos, Anna[2] – Protected natural and cultural heritage and unique landscape values in Remeteszőlős

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According to the database of the Hungarian Central Statistical Office, Remeteszőlős is the smallest settlement in Hungary. Due to the young nature of the settlement and its modest settlement image, its unique landscape values of public interest are not sufficiently known. The aim of our research work was to assess the protected values and unique landscape values of the settlement, and then to prepare a draft educational trail for the Local Government. Our research methods included literature analysis, data processing, questionnaires, field trips, taking photos and surveying unique landscape values according to MSZ 20381/2009 standard. Based on our results, we prepared a settlement cadastre, assessed the type, main properties, and endangerment status of unique landscape values. We would like to transfer our research results to the local government so that the values learned and surveyed can be presented in Remeteszőlős.

Stoff, Zoltán; Dobos, Anna – Surveying of unique landscape values in the environment of the Cistercian Abbey of Bélapátfalva

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The aim of our research work was to survey and evaluate the unique landscape values of cultural heritage, nature, and landscape heritage in the immediate vicinity of the Church of the Cistercian Abbey of Bélapátfalva and on Bél-kő hill. The cadastral survey combined with field visits was carried out using the MSZ 20381/2009 Hungarian Standard, then the unique landscape values were evaluated using the MSZ 20381/1999 Hungarian Standard evaluation method. Based on our results, we presented the unique landscape values, cultural-historical and natural treasures of the Abbey Church and the Bél-kő educational trail, which has been operating since 2016. An informative map indicating the unique landscape values has also been structured for touring the area, which can be used by guests arriving here later.

Balázs, Dávid Norbert; Fazekas, István – Anthropogenic landscape changes in the area of Nyíregyháza

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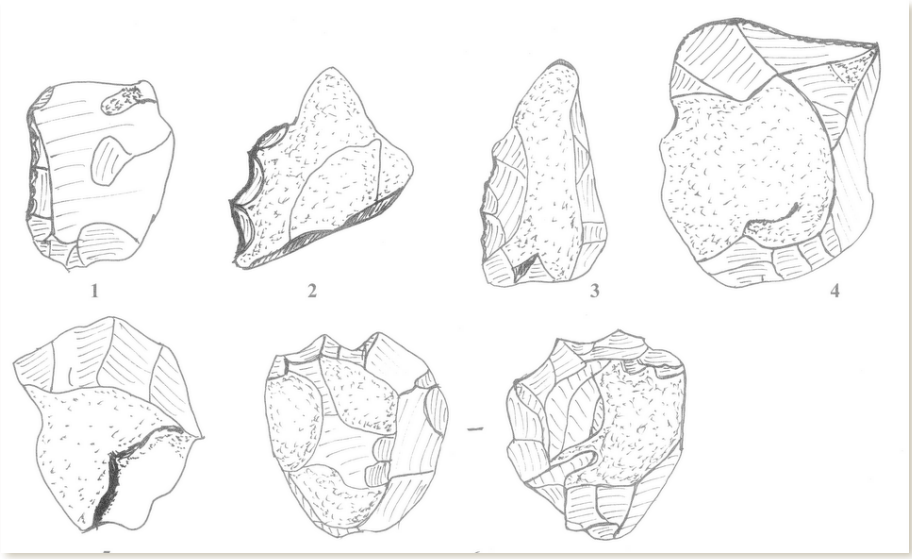
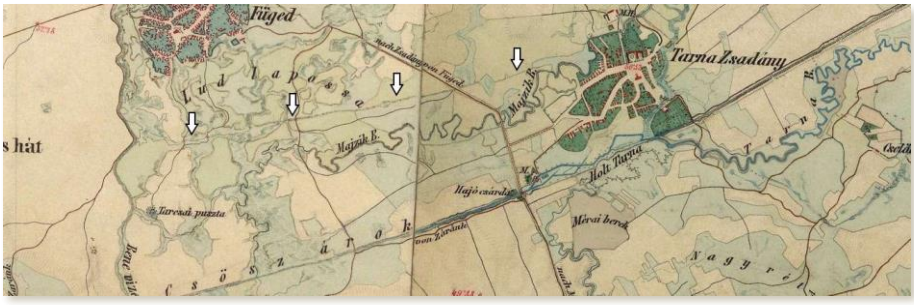
In our study, we examined the landscape changes that have occurred since the second military survey in Nyíregyháza, in response to anthropogenic influences. Based on Corine Land Cover data we got a picture of the land cover changes in the settlement between 1990 and 2018. Based on maps from military surveys and EOTR sections from 1972-75, it was also possible to identify land use characteristics from earlier periods, which, after vectorization and processing in geoinformatics software, allowed for quantitative comparisons of land cover conditions in each period and the detection of possible trend changes.

LANDSCAPE ARCHAEOLOGICAL RESEARCHES

Chair: Gutay, Mónika





Gutay, Mónika[1]; Kerékgyártó, Gyula[2]; Tóth, Károly[3] – Palaeolithic and Neolithic/Copper Age relics in the Gyöngyöshalász–Encsi-Határra Járó-dűlő

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In 2004, we started collections on the surface several in the Mátraalja Region with researcher Gyula Kerékgyártó. We have identified a number of archaeological sites, primarily Palaeolithic, and sources of limnosilicite raw materials (Gutay, 2007). In our study, we present the topographical position of Upper Palaeolithic, Neolithic and Copper Age sites and stray finds around Gyöngyös and Gyöngyöshalász. In 2023, metal detector partner Károly Tóth drew our attention to the Gyöngyöshalász–Encsi-Határra Járó-dűlő site. We conducted collection on the surface several to the site twice (Gutay, 2023b). The interesting thing about the site is that it contains archaeological finds from the Upper Palaeolithic (Aurignacian) to the Copper Age. We describe in more detail the Upper Paleolithic (Aurignacian), Neolithic (late Alföld LBK Culture) and Copper Age artifacts found surface collections. We analyse the topographical situation of the Upper Palaeolithic, Neolithic, and Copper Age sites in the Gyöngyös and Gyöngyöshalász surroundings, in order to better see the main factors of the prehistoric settlements.

Pásztor, Emília – Symbolic landscape shaping in prehistory: orientation of ancient structures

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Orientation is an integral part of a community's worldview; a fundamental element of the mental map formed about the natural environment and can hold multiple meanings for them in any direction that is important.

The focus of orientation can be an element of either the built or natural environment. However, the natural environment encompasses not only the earthly landscape but also the celestial landscape, which has formed an inseparable unity for communities following traditional lifestyles.

Within the framework of the presentation, the author examines how the orientation of a structure, graves, or even residential houses reveals the relationship between the community and nature. Using the example of the circular ditch systems of the Late Neolithic Lengyel culture, the author demonstrates how the creation of a rondel symbolically shaped the given landscape.

Saláta, Dénes; Pető, Ákos; Molnár, Ábel; Milinkó, István; Kovács, Balázs; Zatykó Csilla – Preliminary Data and Methodological Questions in the Example of the Landscape Archaeological Research of the Medieval Settlement of Vátyon – Kis-Sárrét, FLOTT Project.

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The former border of Vátyon (Kis-Sárrét) is approximately 1510 hectares, on which significant land use changes have occurred over the past centuries. Our task is to better understand these changes and to retrospectively approximate medieval land use as closely as possible. To achieve our goals, we are developing a multi-layered methodology that includes the digitization of historical maps of the area, as well as a grid-based method. The essence of this method is to record the information from historical maps at grid points, and then to conduct field data collection at randomly/semi-randomly selected points among these, thereby revealing the trajectories associated with those points and their scientifically examinable layers. After adaptation, this will be reversible to the points in the area that share the same historical context.

Hubayné Horváth, Nóra[1]; Gergely, Attila[2]; Weisz, Szilvia[3]– Past and present of the Gödi-láprét ("Fen at Göd")

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For centuries, „Gödi-láprét" („Fen at Göd") has served as a pasture and hay meadow, hiding valuable fen vegetation. Its transformation began with the construction of the Budapest-Vác railway and the draining of the fen in the mid-1800s. Since then, it has gradually been built around, and its grazing has ceased. In the 1990's, part of it was declared a nature reserve, while in another parts arable land and then a golf course was established. Today, nearly half of the 70hectares site is used by the city as recreational green space, while the other half remains protected area. Changes in land use over the past two centuries and drying out have led to changes in vegetation and habitats. The article presents the results of the landscape historical analysis of twenty-three map sources and archive aerial photographs.

Nádasy, László Zoltán; Illyés, Zsuzsanna – Analysis of changes in rows of trees in a Budapest study area

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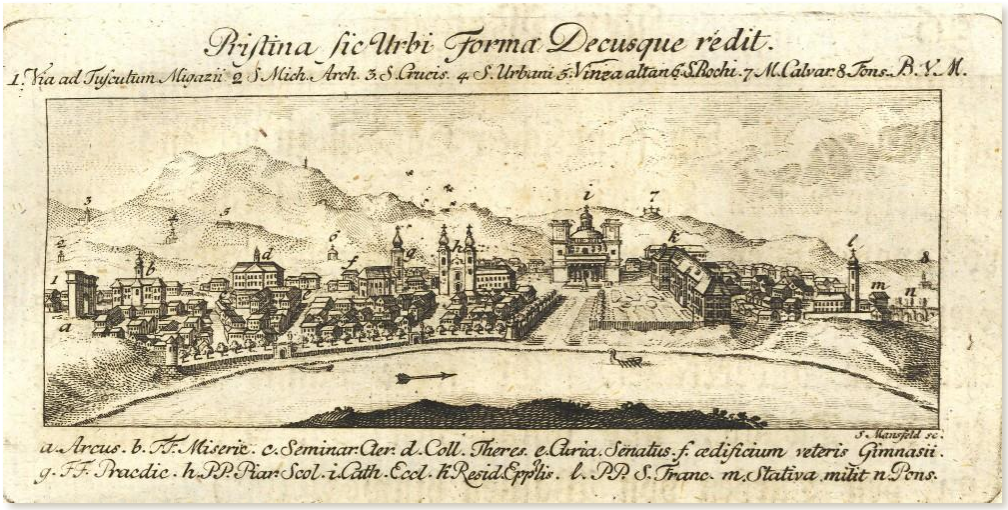
In our study we analysed changes in the homogeneity of rows of trees in Albertfalva, Budapest, in different moments in time, using aerial photographs and field studies. We studied plans and professional documents relevant to the study area to provide a theoretical framework. As a result, we found that homogeneity is an almost universal requirement towards urban rows of trees. In comparison, our analysis of the study area concluded that due to several processes, rows of trees tend to become increasingly diverse and heterogeneous with time –the requirement of homogeneity is only met in very young, recently planted rows of trees. However, these changes can also lead to the creation of new, valuable elements in the urban landscape, by increasing the visual importance of individual trees.

SACRED LANDSCAPE MONUMENTS

Chair: Dr. Illyés, Zsuzsanna



Illyés, Zsuzsanna; Zomborka, Márta; Szabó, Andrea; Szalay, Ákos – The Sacred Spatial System of the Vác Landscape

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The Inventory of Unique Landscape Values (TÉKA) lists nearly 22000 religious objects. Spatial relationships within this mass of valuable landscape elements, often appearing in settlements, are poorly known. Our goal was to understand the 18th-19th century topographic order in Vác, a settlement rich in sacral objects and well-researched in terms of elements. Data from seven contemporary maps were integrated with a digital base map and elevation model. We revealed the role of land use, administrative boundaries, visibility, and visual connections in the creation of the sacral spatial system of Vác. Overall, we determined that the placement of religious elements shows sensitivity to the landscape or landscape-focused supervision. Emphatic nodes, visual axes and spatial markers were added to the agricultural landscape – the base plane of the urban landscape composition.

Kajati, György Lajos – The Sacred Values of the Retezat and Its Surroundings

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During a collaborative effort between civil organizations from Transylvania and Hungary, we gathered natural and cultural treasures through voluntary work in the Retezat Mountains and its surroundings (in the Hátszeg and Petrozsény basins, as well as in neighbouring mountain ranges). These were organized, and in our study, we focus on presenting the sacred values, most of which are connected to the local Hungarian community. A prominent historical figure of the region is Viktor Maderspach, in whose memory we have established a 107 km hiking trail, aiming to support the tourism of the region by promoting numerous values. A travel guide highlighting these values is being prepared, along with a comprehensive map of the Retezat area and its surroundings to fill a gap in available resources.

Sárospataki, Máté; Herczeg, Ágnes – Saints of landscapes, saints' landscapes in the Carpathian basin: saint guide

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Christianity is the decisive foundation of European culture. For Hungarians, since the reign of King Saint Stephen, it has been a clear feature of our lives that we are surrounded by a sacred environment derived from Christianity throughout the Carpathian Basin. Our research on the prevalence of statues of saints in the Hungarian landscape highlights the significant role that saints play in our lives and in the character of our environment, both in the past and today.

Bodnár, Mónika – Sacral small buildings in the countryside

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Ethnographic literature refers to outdoor features made for religious purposes as sacral small memorials or buildings. Church officials usually sanctified these as well, although their main purpose was to be used for folk religious practices. Local vernacular refers to these features as crosses or chapels, however the category also includes the statues of saints, Calvary monuments and many more. I personally consider monuments with sacral motifs related to both World Wars and other historical events to also be a part of this category, as well as grave marks with sacral elements that can be found in cemeteries outside of the main cross.

The aim of this essay is to draw attention to the spatial distribution aspects of these sacral small buildings. First, the classic locations of such features are briefly introduced, followed by appearances that differ from the aforementioned, complete with explanations to the reasoning behind their unconventional placements. Examples to both are provided through images that were either made during personal fieldwork or selected from the Ethnographic Database of the Herman Ottó Museum.

Nagy, Tamás – Examining the sacralization and spatial networks of the memory of the Srebrenica genocide

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Throughout Bosnia's history, multiculturalism and religious differences have been the main problems between the Croat, Serb, and Bosnian ethnic groups. The tipping point in this rivalry was the collapse of former Yugoslavia and the outbreak of the 1992-95 Bosnian war. During the war, the Bosnian Serb army committed atrocities against Bosniaks in Srebrenica, killing nearly 8,000 people. After the war, the area around Srebrenica became an impure place in terms of spirituality. In order to purify the place, the Bosniaks had to create a cemetery. Today this cemetery has multiple meanings for the Bosniaks, and the symbolic place has the potential to become a centralised sacralised site. This paper discusses the process of sacralization of collective memory and symbolic sites of the Srebrenica genocide.

Márton, Mátyás; Oláh, Krisztina – Sacred memories in Aldebrő village (Heves county, Hungary)

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The thesis draws attention to the fact that epitaphs play an important role in the exploration of the history of sacred memories, which can refer to the loss of a small child, commemorate a heroic dead, or remind an important event in one's life, such as the 1848 War of Independence. Examining the broader circle of family members with the help of data from church (baptism, marriage, and death) registers, in many cases they can point to the motivation of a statue or stone crucifixion.

We show some examples of their specific appearance in connection with the examination of Aldebrő's sacred monuments.

POSTER SECTION 1.

Chair: Dr. Valánszki, István

Novák, Tibor József[1]; Tóth, Csaba Albert[2] – Evaluation of the geomorphological and pedological survey of Hajdúnánás Rác-mound

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The study refers to the results of the preliminary soil- and geomorphological survey of Hajdúnánás Rác-mound, intending to clear the origin of the object. The local legend explains that the mound was created as a mass grave in 17th century in which the murdered soldiers of the neighbouring village of Vid were buried.

The mound has a relative height of 2,2 meters and consists of less than five hundred m^3 of compacted topsoil. A significant amount of material was transported away, and the mounds material is disturbed at its northern and western sides, presumably to upfill surrounding streets and lots, in recent centuries. From a geomorphological point of view, it belongs to the smallest of this kind of artificial landforms.

In the augered soil profileing at the top of the mound, we found layers from anthropogenic filling or digging in several layers, their anthropogenic origin is evidenced by the small artefacts, lime-soaked clay pieces and charcoal debris. No human bones were found so our survey cannot confirm the mass grave origin, rather the prehistoric multiple settlement or burial function could be confirmed.

Barabás, Ambrus; Balogh, Szabolcs; Szabó, Gyula – Landscape-shaping nature conservation in the Kaszonyi Mountain

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The 219 m high volcanic mountain, located in the northeastern tip of the Great Plain, has been strongly transformed by anthropogenic activities of the past centuries. The former rich mountain pastures and mowing fields have been replaced by vineyards and orchards. Rhyolite tufa and rhyolite were considered valuable building materials, so the quarry carved out larger and larger pieces of the mountain. Intensive mining and viticulture were finally put an end to the two world wars, and finally to the border situation and the abandonment of cultivation.

After the regime change, the 160-hectare area was transferred to the Nyírség-Szatmár-Bereg Landscape Unit. The aim of the employees of the Hortobágy National Park Directorate is to preserve the emblematic flora and fauna through the Grassland-HU LIFE integrated project, and even to reconstruct the former rocky lawns in the place of the abandoned, dilapidated vineyard plots.

Holló, Sándor – Tracing unknown Csörsz trench sections

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The legend of Csörsz, the king of the Avars, is known from the history book. The nature and exact route of certain trench sections, which he had dug according to the legend, are still not fully understood. The research initiated in 1962 by archaeologist and museologist Dr. Pál Patay, together with Éva Garam and Sándor Soproni, and conducted for twenty years, was considered one of the most extensive ancient earthworks in Hungary and Europe but was interrupted in some areas due to the possibilities of the time. With the help of historical maps and remote sensing tools now in the public domain, the author has used his research to investigate the previously unknown continuations of some less-researched trench sections.

Oláh, Krisztina; Márton, Mátyás – The appearance of Aldebrő sacred memories on early (contemporary) maps

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Aldebrő is a village in Heves County, located in the Tarna Valley, southwest of Eger. It is often referred to as "the village of statues."

The village was founded in 1743 by Antal Grassalkovich, and its Catholic inhabitants, who were settled from Germany, largely assimilated over the course of a century, becoming loyal sons of the Hungarian homeland. This is evidenced by a tombstone that still stands in the Old Village Cemetery: "HERE RESTS | IN THE LORD | PÓR JÓZSEF | 48TH HONVÉD | LIVED 78 YEARS | + 1904. | B.P." There are also several early German-language memorials found here, which form part of the village's sacred heritage.

At the same time, numerous statues and stone crosses can be found in both the inner and outer areas of the village. Researching the history of these monuments is closely tied to the family history of the sponsors. The assertion may seem unusual at first glance, but studying church records can often shed light on the motivations for erecting the statues (manifestations of gratitude, hope, and supplication).

Gutay, Mónika[1]; Kerékgyártó, Gyula[2] – Mesolithic settlements in the Heves county

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Research on Mesolithic sites in the Heves county, along the Holt-Tarna, began in 2001 (Figure 1). Independent researchers Sándor Béres, Gyula Kerégyártó and Attila Péntek found Mesolithic-style knapped stones in the areas of Jászdózsa and Tarnaörs (Kertész 2005, p. 13). In 2001, archaeologists László Domboróczki and Róbert Kertész identified several Mesolithic sites (Domboróczki, 2004, p. 281). In 2006, we started collections on the surface several in the area of Tarnaörs and Erk with researcher Gyula Kerékgyártó. At that time, we located Erk No. 1. site (Gutay & Kerékgyártó, 2019, pp. 35–50). Archaeological excavations in the county of Heves, Tarnaörs–Fodor tanya (Kertész, 2005, pp. 1–53) and Erk 1. no. (Gutay & Kerékgyártó, 2019, pp. 35–50.) were in Mesolithic sites. We excavated in 2022 at the Hatvan–Sportpálya site. Microlithic stone tools (mainly endscrapers, geometric microliths) and knapped stones were collected from the Avar Age graves and from the subsoil. Microlithic knapped stones were found in three sites near Lőrinci (Figure 2). Between the settlements of Átány and Heves (Figure 1) in 2006, then in 2019 and 2023, we found microlithic stone tools, fossilized animal bones, pieces of charcoal and knapped stones at four sites.

Rácz, Kristóf László; Gutay, Mónika – 3D archaeological survey of the Neolithic enclosure of the Hevesvezekény-Vezekényi-tanya

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On May 10, 2021, a 3D survey of the Neolithic enclosure of the Hevesvezekény-Vezekényi-tanya was carried out using a drone on a five-hectare area. The 2.5D model (DSM) prepared using the photogrammetric method perfectly outlined the enclosure and its surroundings, which clearly shows the artificial design of the phenomenon, or modern farming apparently did not significantly affect its spatial extent. The magnetometer survey clearly confirmed the presence of the enclosure. The finds of the Neolithic, late Alföld LBK Culture (ceramics, burnt clays, tool stones and knapped stones) collected during field trips date the enclosure. Further research: gridded surface collections, drillings, design excavations and natural science investigations can provide a more accurate picture of enclosure.

Földi, Zsófia; Nádasy, László Zoltán – Review of the landscape values on the settlement fringe of Jászberény

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Nowadays dynamic settlement expansion can be observed. Settlement expansion is one of the most threatening factors for the sustainability of unique landscape values. The construction of housing estates, industrial parks, shopping centers cause the disappearance crosses, cemeteries. The settlement fringe is at the forefront of settlement expansion, thus those unique landscape values situated on the settlement fringe are in the most danger. The research aims to reveal how the unique landscape values of Jászberény have been damaged by the settlement expansion of the past 13 years. We have completed our study based on the examination of the settlement expansion of Jászberény and on the document named "Survey of cultural unique landscape values in Jászberény in 2010" done by the Department of Landscape Protection and Reclamation. In 2010, 187 unique landscape values were surveyed in the area of Jászberény, of which forty-three unique landscape values were related to the settlement fringe.

Módosné Bugyi, Ildikó[1]; Csima, Péter[2] – Conservation Utilization of 19th Century Quarries

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Open-cast mining changes the surface of the landscape, resulting in anthropogenic surface forms that are considered landscape scars from a landscape perspective. In the second half of the 20th century, the need arose to place mines exploring special geological values under nature protection. In our research, we examined the major quarries displayed on the cadastral map made in the 19th century and determined their current use, with special regard to nature conservation functions (protection, presentation purposes). We reviewed protected natural areas of national and local importance, examining which ones can be linked to former mines. We focused primarily on those independently protected nature reserves and natural monuments where the value revealed or developed because of mining was the reason for the designation as protected.

THE ROLE OF NATURAL FACTORS IN LANDSCAPE FORMATION 1.

Chair: Dr. Gyenizse, Péter

Gyenizse, Péter[1]; Morva, Tamás[2]; Varga, Gábor[3]; Lóczy, Dénes[4]; Németh, Gergő[5] – Landscape change studies on the Mohács plain

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At the Institute of Geography and Earth Sciences of the University of Pécs we have been researching the Battle of Mohács and its natural conditions for years. In the area of the Mohácsi plain, the greatest changes in recent centuries have been observed in the hydrology and land cover. We reconstructed the course of the Mohács-Danube branch dating back to 1685, which is significantly longer and more winding than today, and on the other hand, the course of the streams before canalization (Figure 2). We examined the change in land cover using old maps and GIS software. In the 18th century, half of the Mohács plain was covered by wetlands and forests (Figure 10). The proportion of it decreased to 16% by the 19th century, and then slightly increased. The proportion of meadows was highest in the mid-19th century (31%), then declined sharply (4%) in the 20th century. The area of ploughland has doubled in the last three and a half centuries (from 31% to 66%).

Viczián, István[1]; Szeberényi, József[1]; Szávoszt-Vass, Dániel[2]; Drusza, Tamás[3]

– What was the landscape like around the Mohács battlefield in 1526?

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To interpret the contemporary sources related to the 1526 Battle of Mohács and to localize the battlefield, it is essential to reconstruct the geomorphologic and hydrographic characteristics of the landscape, with particular attention to environmental features (e.g., swamps, stream valleys) that could significantly influence the course of the battle and troop movements. The aim of our research is to comprehend the effects of geomorphological processes in the landscape and reconstruct their history for the Holocene period, with a specific focus on the year 1526.

Misik, Tamás[1]; Misik-Bartók, Dóra[2] – New chorological data of protected plant species, in partially abandoned vineyards from the Galagonyás-valley, Eger, Hungary

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During the first field trips in the Galagonyás-valley between 2007 and 2010, individuals of several protected herbaceous plant species were found in the vicinity of Eger. A few decades ago, terraced viticulture dominated the southwest slopes of the valley, while after its abandonment, natural succession processes started. The following plant species under nature conservation protection were found in the studied area of only a few hectares of the valley: ball-head onion (*Allium sphaerocephalon*), Hungarian leopard's bane (*Doronicum hungaricum*) Rchb.), lady orchid (*Orchis purpurea*), solitary virgin's-bower (*Clematis integrifolia*), martagon lily (*Lilium martagon*), Jerusalem sage (*Phlomis tuberosa*) and star-of-Bethlehem (*Ornithogalum brevistylum*). The mentioned processes resulted in the formation of close-to-natural vegetation also in the once cultivated areas. The valley also proves that vegetation with natural values and near-natural conditions can develop relatively quickly on the site of once intensively cultivated areas.

Sütő, László; Virág, Martin – Geoheritage types in the Bükk Region Geopark

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Understanding the geo-environment is a vital part of environmental culture. Geoparks were established for the sustainable utilization of abiotic natural values. The Bükk Region Geopark received UNESCO Global Geopark status in 2024. In our research we evaluated 350 geosites using our modified GAM. Our investigations confirmed international-level geodiversity, while the indicators of touristic usability suggest further development needs. Our analysis identified five main geotouristic core areas, each with distinct geological and geomorphological character and development. Based on the visitor traffic of the Mátra-Bükk tourist destination, development in the geopark, which overlaps with the Bükk National Park must be done in accordance with nature conservation goals to ensure long-term operation and promote geoheritage.

Rácz, Kristóf; Gutay, Mónika – 3D archaeological survey of the Heves–Czigler Prehistoric enclosure

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Archaeologist Mónika Gutay conducted an on-site inspection in the Heves-Czigler area on March 6, 2019. A prehistoric, Neolithic, Copper Age and Sarmatian settlement was discovered. Under the leadership of geophysicist Donát Raáb, a magnetometer survey was conducted in the 21,917 square metres area of the enclosure and its surroundings between April 3 and 29, 2019. The magnetometer survey clearly confirmed the existence of the enclosure and its 50 m diameter. Between October 30 and November 12, 2019, a survey was carried out on 3,600 ^{square} metres with 10x10 m grids. From the area of the enclosure, in addition to the ceramics indicating the disturbance of the Sarmatian period, Neolithic and Copper Age ceramic fragments, animal bones, burnt clays, tool stones and chipped stones were found. On April 30, 2020, a detailed drone survey of the four-hectare area of the enclosure and its surroundings was made. The borings determined the depth and approximate width of the subsoil, the trench. Drilling was carried out in the longitudinal axis of the two probe trenches on November 5, 2019. Based on the drilling, the depth of the subsoil is 50–60 cm, the deepest point of the trench is 150 cm, and its width is 10–11.5 m (Gutay, 2022). We do not yet know the complete structure and exact age of the circular ditch, so further research and investigations will be necessary.

CONTEMPORARY LANDSCAPE CHANGES

Chair: Prof. Dr. Kertész, Ádám

Kertész, Ádám[1]; Pajtókné, Tari Ilona[2] – Landscape change and Land Use change

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Landscape history and landscape change are closely interrelated with land use and land cover change. 20 % of the changes are due to the expansion of agriculture. General aspects of the given topic are dealt with first, followed by two case studies. The first study deals with land use changes in Lake Balaton catchment. The analysis of statistical land use data points to a relatively positive development, i.e. to the increase of the forest area and to the decrease of agricultural area. The second case study deals with land use changes and ecological capability assessment of the Eger Model Region. The capability map is compared with present land use and the conflicts between landscape capability and present land use are identified. Suggestions are made to optimize land use according to the capability map.

Majdán, Miklós – The Border in the landscape, Hungary's southern borders

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The current article is about the borders in the landscape, especially the southern borders of Hungary. The borders of the one thousand years old Hungarian state were mostly stable (thanks to the Carpathian basin, which is a highly, defendable natural fortress line) except the southern borders. The Ottoman Empire conquest after 1526 had a significant impact on Hungary, but after their departure, almost two hundred years later, at the beginning of the 18th century, the borders were mostly at the same place than before, near the Danube, and the Sava. This situation remained for another two hundred years. The biggest change was brought by the 20th century, the First, and Second world wars… The borders changed dramatically like ebb and flow in 25 years, occupying armies came and went, regimes changed, and near the southern borders of Hungary new states were borne, and died… In the last one hundred years the 621 km long, southern Hungarian border saw a lot of strange things, from near abandonment, and non-existent state, tot eh heavily garrisoned, closed (and fenced) current status. We can say the old sayings: Mutatis mundis, and History repeats itself.

Erdei, Tímea[1]; Boromisza, Zsombor[1]; Domokos, Endre[2] – Changes and current characteristics of river-settlement relations based on the experience of local involvement on the Zagyva river

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Both the river regulations and the expansion of settlements have had a significant impact on their relationship with the river. The riparian zone has been increasingly transformed, with human impacts including changes in morphological structure, hydrological changes, habitat structure, and ecological processes. The aim of the research was to analyse the main historical changes in the river-settlement relationship in three study areas and to explore the characteristics of the river Zagyva with the involvement of local people. The public's opinions were gathered through an online questionnaire, which allowed them to share their thoughts about their habits of visiting the river, the main values and problems of the area, and the changes they think are needed.

Wittmann, Tamás – The stages of nationalization of the landscape in the Baranya Triangle

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In the case of the nationalization of a landscape, the national characteristics affecting the landscape are consciously strengthened in favor of one nationality against the others. One form of this is symbolic appropriation through place names, public space designations, inscriptions, memorial plaques, national symbols, and even through commercial surfaces or gastronomy, while its sacred dimension is also present in religious symbolism. The Baranya Triangle is now part of Croatia, but over the past centuries, it has been part of various state formations. It has been a place of coexistence for Croats, Serbs, Hungarians, and for a time, Germans. Since the early 20th century, both Hungarian and Serbian, as well as communist Yugoslav and Croatian powers have sought to nationalize this multicultural landscape. In my presentation, I intend to detail these efforts.

POSTER SECTION 2.

Chair: Dr. Földi, Zsófia

Kisvarga, Szilvia[1]; Táborská, Jana[2]; Hamar-Farkas, Dóra[1]; Boronkay, Gábor[1]; Orlóci, László[1]; Horotán, Katalin[2] – An overview of the development and evolution of traditional and alternative urban green spaces in the perspective of their changing priorities and functions

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The green spaces add diversity in many forms to the overall urban landscape, but in addition to their initial ornamental and recreational role, there is an increasing focus on sustainability and functionality. Accordingly, traditional greenspace solutions are undergoing constant change to meet both traditional and new expectations. These changes are leading to the development and application of new technologies, and even a new kind of a green spaces, such as extensive and intensive green roofs, green facades, and rain gardens. The transformation of green spaces is an ongoing process, where a mix of traditional and modern solutions is required to match a wide range of different objectives.

Horotán, Katalin[1]; Kisvarga, Szilvia[2]; Tábroská, Jana[1]; Orlóci, László [2] – A brief overview of urban green space changes and the directions for sustainable approaches in Hungary

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The perception of urban green areas in Hungary has been evolving over time. The first of the most important milestones was the introduction of the green normative in 1920, followed by the establishment of the green hierarchy in 1951. Next was the green ecological network in the 1980s, which was also complemented by the concept of ecological corridors. The idea of sustainability was introduced early on and was manifested in the development of local green spaces. This modern approach is becoming increasingly prominent in urban planning, with an increasing number of examples in the country. All these examples share the common goal of providing benefits that counteract the negative impact of urbanization, such as water runoff and pollutant absorption. Therefore, having better quality and quantity of urban green spaces will be crucial in the future life of our cities.

Szabó-Szöllösi, Tünde Irén[1,3]; Papp, László[2]; Penksza, Károly[3]; Orlóci, László[1,3] – The ELTE Botanical Garden as a Historical Botanic Garden – The History of Its Development

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Hungary's oldest botanical garden (so-called Füvészkert) celebrated its 250th anniversary in 2021. The garden was founded at Nagyszombat by the legal predecessor ELTE university. During its history, the garden was moved five times, and finally found the present ten-hectare place in 1847. This place was bought from Count Festetics by the Royal University of Pest, and lately lost three quarters of this area due to the expansion of the Faculty of Medicine. The Füvészkert became a historical garden, despite the many moves and the poor conditions, even Pál Kitaibel, the second director of the institution, called it a "wandering garden".

Zagyvai, Gergely – Historical overview of the forest cover changes in Cserhát Hills (Northeastern Hungary)

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Changing of forest areas were examining in Cserhát using historical maps, literature data and land use statistics in context of other land cover categories. Microregions of Cserhát have a different land use character, which can be explained by natural geography and anthropogenic reasons. Their landscape history was analysed separately with the help of a series of digitized maps depicting forest areas. The forest cover of the landscape decreased until the second half of the 19th century, which corresponds to the national trends. After that, the area of forests increased, significantly especially after the middle of the 20th century. This expansion occurred mainly at the expense of the pastures, meadow and vineyards that compose the traditional, mixed land use of Cserhát. The negative ecological consequence of the changes is that the vegetation is determined by the non-native and invasive black locust in many parts of the landscape.

Balázs, Pál; Hermann, Tamás; Stankovics, Petra; Tóth, Gergely; Zugfil-Maletics, Virág; Bidló, András – Landscape change in the Szigetköz and its relationship with the carbon cycle

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The land cover assessed at various times serves as a kind of imprint, preserving the characteristics and spatial patterns of former usage. In the Szigetköz Region, we examined changes in land cover using three historical maps (1784, 1840, 1953-59) and two contemporary mapped databases (CLC 1998-99 and CLC 2018). To quantify the processes of change, we digitized and analysed the historical maps based on a uniform coding system that includes nine land cover categories. We assigned potential carbon sequestration capacity values to certain land cover categories on the reconstructed land cover map, which allows for an estimation of the landscape's role in the carbon cycle.

Pető, Ákos; Kovács, Gabriella; Saláta, Dénes; Vicze, Magdolna – The traces of circular economy in prehistoric times - Bronze Age examples from the archaeological soil and botanical research findings of Százhalombatta-Földvár.

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The relationship between prehistoric communities and their environment was not limited solely to activities related to food production and nutrition; it also extended to the procurement and production of materials necessary for the creation of essential tools and structures. In everyday life—much like today—numerous types of waste were generated, and tracking this waste is an important aspect of the daily lives of contemporary communities. In some cases, we can archaeologically observe the traces of waste management from that period; however, to achieve a precise understanding of the processes and events, it is worthwhile to utilize scientific tools such as archaeological soil science and archaeobotanical methods.

Hanyecz, Katalin, Somlyai, Márta – Observing the effect of weather anomalies in the Arboretum of Szarvas

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The aim of the studies is to conduct a detailed survey of the largest and oldest trees of the Arboretum of Szarvas, to determine their species and genus distribution, and to explore their links with climatic data.

The studies involve comparing the growth vigour of native and non-native species. These studies will help us to determine the long-term tolerance of non-native species to extreme conditions, and what are their height and stem growth rates alongside the native, and typically long-lived, large-bodied species to the extreme continental climate of the Great Hungarian Plains.

The survey results show that the twenty trees with the largest trunk sizes represent a total of 10 species, four of which (Quercus robur L., Populus nigra L., Populus alba L., Ulmus glabra Huds.) are native to Hungary and six are non-native. This indicates that exotic species are also surprisingly well adapted to the extreme climatic conditions of the Great Hungarian Plains and can reach a considerable age and stature. This underpins our ambition to try as many new species as possible in the Arboretum, as they may prove to have significant aesthetic value, despite previous experience, and may be suitable for creating green spaces in cities or other areas of the region.

Pető, Ákos; Kovács, Gabriella; Saláta, Dénes; Vomberg, Frigyes; Lisztes-Szabó, Zsuzsa – Integrated archaeobotanical methods in the service of household archaeological research – introducing the DAAMBA project

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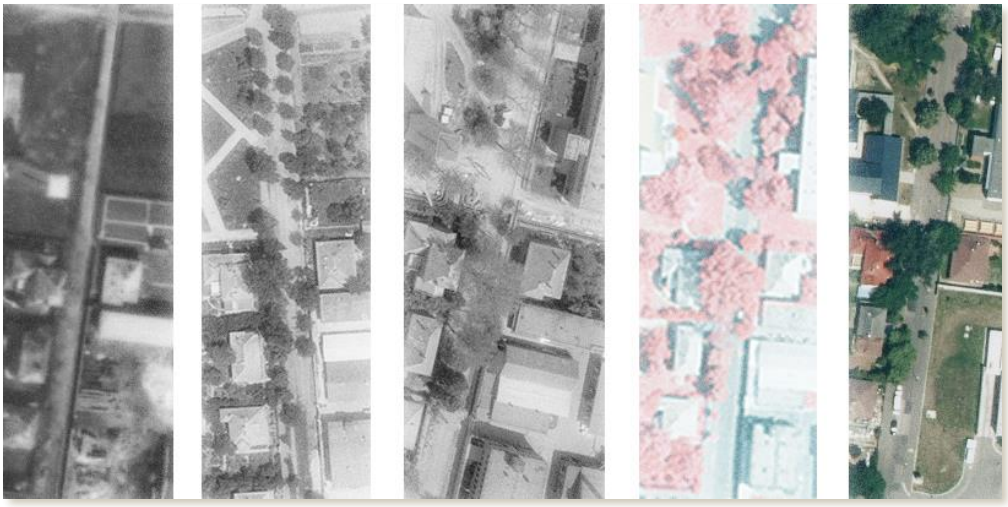
The former boundary of Vátyon (Kis-Sárrét) is approximately 1510 hectares, within which significant changes in land use have occurred over the past centuries. Our task is to better understand these changes and to retrospectively approximate medieval land use as closely as possible. To achieve our goals, we are developing a multi-layered methodology that includes the digitization of historical maps of the area, as well as a grid-based method. The essence of this method is to record the information from the historical maps at grid points, and then to conduct field data collection at randomly or semi-randomly selected points among these, thereby revealing the trajectories associated with those points and their scientifically examinable layers. Following this adaptation, it will be possible to revert to points in the area that share the same historical narrative.

GARDEN HISTORY AND GREEN SPACE

Chair: Dr. Gecséné Tar, Imola



Gecséné Tar, Imola[1]; Takács, Katalin[2]; Mikházi, Zsuzsanna[3]; Sallay, Ágnes[4] – Secondary uses of Budapest cemeteries based on cemetery-historical characteristics

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In addition to the traditional burial and memorial roles, cemeteries can also have secondary and tertiary functions, such as recreational and/or touristic purposes. Park cemeteries, like urban public parks, are essential elements of the urban ecosystem and play a significant role in biodiversity conservation. Both functioning and closed cemeteries represent a major part of Budapest's green infrastructure network, not only due to their size but also because of the high proportion of their green spaces. This paper provides an overview of the history of Budapest's cemeteries and interprets how the recreational and touristic potential of some metropolitan cemeteries is influenced by their historical characteristics.

Ács, Marianna – Memorials in the Botanical Garden of the University of Pécs – Memorial trees

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In this study, we seek to answer the question of how the memorial trees in the Botanical Garden of the University of Pécs - which are able to recall the botanical garden, the Pius College of the Jesuit Order of Pécs (1914-1948), the College of Pedagogy of Pécs (1948-1962), the Pécs Teachers' Training College (1962-1982), the Janus Pannonius University of Pécs (1982-2000) and the University of Pécs (from 2000) - how they serve the memory and become the imprint of the university's past. The planting of the memorial trees in the Botanical Garden of the University of Pécs and their repeated visits are initiated by one or more communities (e.g. the university administration, individual institutes, student groups, families, and individuals) because they care about remembering the part of the past they want to remember. The memorial trees symbolise the present moment and encourage us to remember, and through them to re-engage with the past." (Nora, 2009).

Iváncsics, Vera – The change of artificial surfaces and green infrastructure in Hungarian Functional Urban Areas

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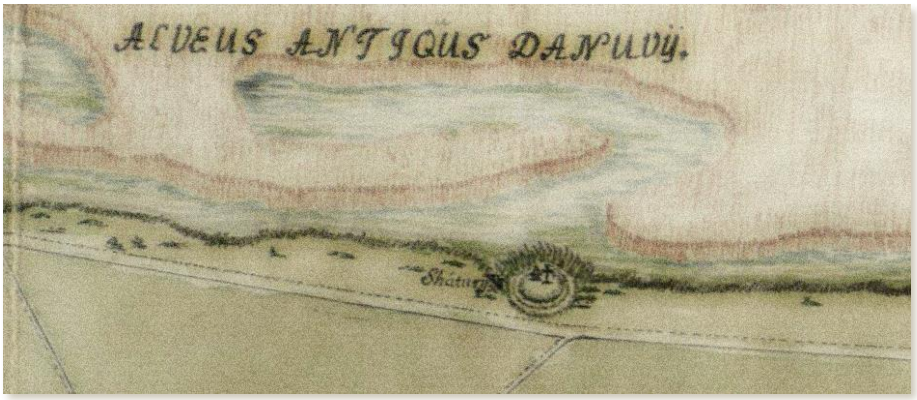
Several problems arise along with growth of artificial surfaces, monitoring became increasingly important. This article focuses on the change in land use regarding functional urban areas (FUA) of Hungary using Urban Atlas database, available between 2012 and 2018. The central question of the research is how the land cover of Hungarian FUAs is changing? The research has a special focus on change of green infrastructure and different kind of artificial surfaces as well. The study found that no drastic changes in this regard occurred in the 8 years examined, however, the trend seen since 1990 with the increase of artificial surfaces - and within that the increase of industrial areas and settlement structure - continued. In the 18 FUA area, a total 5410 hectares was transformed into an artificial surface from mostly agricultural surfaces in 6 years.

THE ROLE OF NATURAL FACTORS IN LANDSCAPE FORMATION 2.

Chair: Dr. Habil. Novák, Tibor József



Novák, Tibor – Soils as an archive of the landscape history

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Soil profiles of anthropogenic origin over ancient settlement remnants and preindustrial lime-burning kiln platforms were studied in Bükk mountains. The post-anthropogenic soil development resulted in burial of artifacts and technogenic substrates at different depths and different quality of the overlaying neo-paedogenic soil horizons. Interpretation and analysis of the development of these soils help to understand the recent paedogenetic processes and support the appreciation of the information stored about the historic land use of the landscape.

Bakó, Gábor; Balogh, Szabolcs; Hubayné Horváth, Nóra; Konyhás, Sándor; Lach, Bálint; Szabó, Gyula – Malomháza: In the footsteps of the watermill on the Hortobágy River

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South of the Nine-Hole Bridge, in the middle of the Puszta, along the bank of the Hortobágy River, we can observe a land peninsula that stands out as a true island during rainy periods, concealing secrets. The staff of the Hortobágy National Park Directorate and Interspect Ltd. utilized aerial photogrammetry tools (High-Resolution Aerial Monitoring Network - HRAMN) to reconstruct the topography of the island and its surroundings, the three-dimensional representation of the vegetation, and the conditions for the accumulation of rainwater in the micro-topography. The aerial photography was conducted with centimetre-level ground resolution, allowing us to see smaller drainage channels and even the tiniest patches of tussocks with the help of the three-dimensional spatial model. Thanks to archival research and the local knowledge of the HNPI staff, the arrangement and location of the once-thriving watermill and its structures emerged from the geometry of the spatial data with geodetic reliability.

Németh, Gergő[1]; Hervai, András[2]; Lóczy, Dénes[2]; Gyenizse, Péter[2] – Historical landscape analysis of Mohácsi Island

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In our research, we examined the changes in land use and landscape patterns on Mohácsi Island from ancient times to the present. The first significant transformations in the landscape began during the Roman Empire. The area was sparsely populated until the 10th century when many settlements were established. The population growth was interrupted by the Mongol Invasion and later by the Ottoman Occupation. In the 17th and

18th centuries, the population continued to grow. The drained marshes were replaced by arable farming, so that in 1952 more than two-thirds of the area was cultivated. Landscape metrics show a marked increase in the dominance of arable land between 1884 and 1952. During this period, grasslands and wetlands were drastically fragmented.

Kiss, Andrea – Weather extremes and their regional distribution in the Banat region in 1718-1754 Part 1: Temperature and precipitation extremes, strong winds and droughts

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The paper is the first part of a mini-series aiming to analyse the 191 weather-related extreme events, documented in the district protocols of the military administration of the Banat region in 1718-1754. In the present study, the temporal and spatial distribution of temperature, precipitation, drought extremes and strong winds are discussed. Results suggest that most of the extremes were reported in the northern and eastern districts of the region. As for temperature extremes, in most cases hard winter (and/or spring) periods and partly heat extremes were recorded. Most precipitation extremes were convective events (e.g. in 1725-1737, 1743-1753). While the greatest Central European temperature and precipitation extremes and anomalous years (e.g. 1718, 1740) are clearly detectable in the region, there are considerable differences in the temporal distribution of hard winters and precipitation extremes (e.g. 1725).

Kiss, Andrea – Weather extremes and their regional distribution in the Banat region in 1718-1754 Part 2: Floods, great fires and locust invasions

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While discussing the weather-related extremes between 1718 and 1754 in the Bánság/Banat region, in the second study of the mini-series, the temporal and spatial distribution of floods, great fires and locust invasions, reported in the protocols of the military administration, and their relationship to anomalous weather conditions are examined. Floods, especially those of the River Maros/Mureş, were the most frequently recorded hazards in the early/mid-18th century, while the year richest in floods was the extraordinary cold year of 1740. The years when more than one great fire occurred mainly corresponded to years with prolonged heat, drought, strong winds and/or convective events. Both major locust invasions (1729, 1747-1751), documented in the protocols as arriving from Wallachia in the southeast and Transylvania in the northeast, were preceded by drought and were mostly reported in the northern and eastern districts.

Ficzere, András – The change in forest stock caused by the Kiskörei Waterworks during the period from 1963 to 2023

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The intention to build the Kiskörei Waterworks was finalized in the Water Management Framework Plan adopted in 1965. The area affected by the waterworks and the dam extends over approximately 20 Producer Cooperatives, along a river section between Kisköre and Tiszabábolna, covered by 3 Water Management Directorates and 3 State Forest Enterprises.

This document aims to describe the impact of this grand project on forest resources. In connection with the investment (which involved several construction phases, damming stages, and related infrastructure developments), there was no comprehensive work prepared that would be comparable to the impact assessments of our current era. The Kiskörei reservoir area once hosted significant forests and large orchards, covering 12,700 hectares. The forest area involved in the preparatory works for the construction and future reservoir development was approximately 3,250 hectares, while the larger orchards occupied a total area of 320 hectares.

A significant part of the felled forest resources was established as part of the national afforestation program starting in 1953. After the adoption of the framework plan in 1965, there were no natural afforestation activities in the investment area. During the construction of the waterworks, the main focus regarding forest resources was not solely on timber harvesting; the planners also considered compensatory afforestation. A total of 3,500 hectares of afforestation intentions emerged in the region, with tasks assigned to water management directorates, state forestry services, and producer cooperatives.

Kitanics, Máté[1]; Herceg, Alexandra[2] – The Mohács Plain and the Mohács Island: geographical names in a multi-ethnic landscape until 1898

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The Mohács Plain and the Mohács Island played a prominent role in Hungarian history. They are associated with fateful battles, the war route passing through here was the site of the march of huge armies and small troops, while it also served as a major migration route. The geographical names here are based on the medieval Hungarian names, some of which were preserved, often in modified form, by ethnic groups arriving and settling during the Ottoman period and subsequent reconstruction. Of course, they also created new geographical names. From the end of the 19th century, by the name Magyarization, many names of non-Hungarian origin disappeared from the diverse geographical names that had been formed during the process of layering.

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