

NEWS LETTER

HUMANITA

Topics

HUMANITA Summer School

Human–nature conflict management

Creative videos of pilot areas

Public workshop in the Malá Fatra National Park

Exhibition “Wild planet, beautiful planet, my planet...”

New Interactive Educational Trail at Suba-Iyuk

HUMANITA Summit:

From Visitor Impact to Nature Protection...

The final conference of the HUMANITA project will be held on February 24, 2026, in Zagreb, Croatia.

Dear esteemed Stakeholders, Partners and Colleagues

Welcome to our fourth newsletter!

We have five project periods behind us, in which we made important progress in all areas, from monitoring of environmental impacts of tourists inside protected areas (Pas), current methods, and best practices, to developing innovative monitoring methods and data sets to detect environmental impacts of tourists, and human–nature conflict management. We are eager to share with you all the news about our progress in the HUMANITA project so far – this period was possibly our most active one, since our project is soon coming to an end. We hope you will enjoy this issue of the newsletter, and we invite you to contact us for any questions you may have.

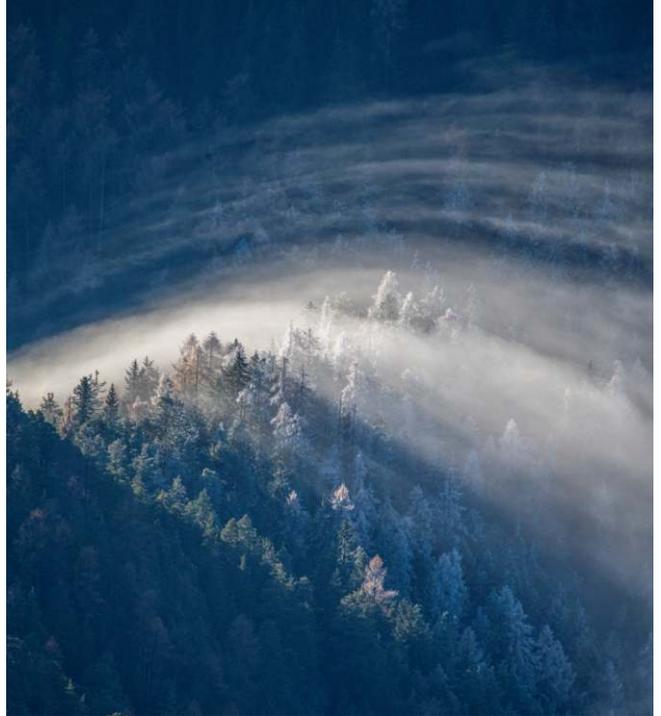


Photo: Urosh Grabner

Developing innovative monitoring methods and data sets to detect the environmental impacts of tourists

The HUMANITA project partners were very active during the summer. Within the activities of **testing monitoring methods and approaches based on the transnational monitoring strategy at pilot sites and joint conclusion (pilot actions)**, partners developed the **Reports on testing and data collection in all pilot sites**. Its purpose is to summarise the results of the analysis, ultimately providing joint conclusions from the testing and data collection efforts.

As part of the **evaluation of innovative monitoring methods**, the **second Evaluation Workshop with external Experts titled “Monitoring Visitors and Their Environmental Impacts”** was held on June 24th 2025, on the topic of ongoing monitoring activities in the project pilot areas, marking the second step of the external assessment process launched in the 1st edition of the workshop, in June 2024. The workshop attended by 27 people was a fruitful opportunity for discussion, during which the partners presented the opportunities, challenges, and criticalities of the monitoring tools and methods adopted, as well as an active and constructive knowledge sharing with experts and professionals for future field activities and cooperation. The state-of-the-art of tourists’ monitoring activities in pilot sites was presented alongside the introduction of the monitoring database built in the project, which is instrumental in data analysis and the subsequent definition of action plans for protected area conservation.

As part of the **Citizen Science Participatory Monitoring** initiative, a **web viewer** and **app were developed**. These interactive digital tools are specifically designed to enable participatory monitoring of environmental impacts, including features such as data collection and spatial representation.

Partners also made a lot of progress in **exchanging knowledge and experiences within the consortium**, as well as in **organizing training events and producing educational materials**. Namely, during the whole project, representatives of partners implemented **study trips** in the form of short-term stays at fellow partners' organisations, where they met other professionals, continuously learned and exchanged knowledge, and developed, tested, and evaluated monitoring methods together.



Photos: Urosh Grabner, except the group photo of Summer School participants, taken by a random girl from CUAS.

HUMANITA Summer School

Additionally, a large educational event was organised: the **HUMANITA Summer School**, titled “Monitoring of Visitors and Their Impacts on the Environment”. From 14–17 July 2025, the HUMANITA Summer School welcomed 55 students and participants to the Campus of the **Carinthia University of Applied Sciences** and the **Karawanken–Karavanke UNESCO Global Geopark**. This immersive four-day program, which awarded 2 ECTS, offered hands-on training in monitoring visitor impacts and managing environmental pressures in protected areas.

The school's goal was to develop students' skills to select the appropriate monitoring method, design a monitoring plan, and perform measurements. Through field workshops and campus sessions, it was focused on teaching participants methods to monitor visitor activities and their environmental impacts using tools such as acoustic sensors, wildlife cameras, drones, and LiDAR devices. The course also emphasized involving locals and visitors as Citizen Scientists. Educational materials were developed for the event and for further usage by universities and the public. The training emphasised evidence-based, participatory strategies for sustainable tourism and biodiversity protection.

The HUMANITA Summer School's success marks a pivotal moment in strengthening nature-based tourism management. By empowering the next generation of environmental professionals with cutting-edge tools and transnational collaboration, the project ensures that protected areas remain resilient, accessible, and sustainably managed for years to come. Moreover, the Summer School marks a





Photos: Urosh Grabner



major milestone in the HUMANITA project's mission to improve human-nature interaction across Central Europe. By combining academic rigour with real-world application, it laid the foundation for a transnational network of nature professionals ready to lead protected area management into a more resilient and sustainable future.

Among other monitoring methods during the Summer School, **water sampling for environmental DNA (eDNA) analysis**, as well as swab samples from amphibians, was conducted at the artificial reservoirs of the Petzen/Peca ski resort in the Geopark Karawanken-Karavanke (Austria) on 15 July 2025. These lakes serve as water storage for snow production but also represent potential habitats of ecological interest, where environmental DNA (eDNA) approaches can be applied to assess the occurrence of pathogens such as *Batrachochytrium dendrobatidis* (Bd). The primary aim of this study was to detect DNA traces from animals in water and on amphibian skin to test the potential presence of the chytrid fungus (Bd), the pathogen causing chytridiomycosis in frogs.

As a result of this research, no DNA of *Batrachochytrium dendrobatidis* was detected in the tested samples. The positive control confirmed the validity and reliability of the detection system. The absence of amplification in all field-derived samples suggests that the chytrid fungus was not present in the tested amphibian swabs or water samples at the time of sampling. This negative result must be interpreted in the context of ecological variability and potential limits of detection, but the inclusion of a strong positive control ensures that the methodology itself was sound and free of technical errors.

The exercise also successfully trained participants in laboratory skills, including pipetting, DNA extraction, and qPCR analysis, reinforcing both theoretical and practical knowledge of possibilities in environmental monitoring and the spread of environmental hazards. This field campaign successfully demonstrated standardised sampling of eDNA from freshwater reservoirs and amphibians. The data collected provide a solid foundation for molecular analysis within the scope of the HUMANITA project.



Photos: Urosh Grabner



Participatory monitoring

In parallel to developing innovative monitoring methods and data sets to detect environmental impacts of tourists, **participatory monitoring and evaluation for community-based nature protection in pilot sites** were taking place.

A Report on participatory monitoring in protected areas in pilot sites, lessons learned, and recommendations was developed with the aim of presenting a detailed overview of the participatory monitoring that each pilot site carried out, framed in contextual features, displaying the achieved results. By comparing these diverse models, the report aims to identify transferable strategies and support the development of scalable participatory monitoring systems for protected areas (PAs). Data collected from pilot initiatives, enabled by the active participation of visitors, citizens, researchers, and students, constitute a significant source of knowledge. This information is meant to be transitioned from internal evaluation to accessible content tailored for various target groups. The data generated by participatory monitoring are also included in the interactive data visualisation tool and reported within the project website and app, informing stakeholders, supporting decision-making, and contributing to the broader impact and long-term value of the HUMANITA project.

“Common heritage” narrative

The HUMANITA project also worked hard to deliver an **innovative mechanism for the development of a “common heritage” narrative**. With this purpose, the **Guideline Manual for New Communication Narratives** was developed, drawing upon the extensive field of heritage interpretation. The document is the result of the valuable collaboration with Michal Medek, Director of the Czech Institute for Heritage Interpretation and professor of environmental education and heritage interpretation at Masaryk University, Brno.

The manual is intended as a practical guide to assist park and protected area managers in transforming theoretical content into engaging and context-sensitive narratives that promote conservation awareness. Storytelling and communication are powerful tools that, when applied to scientific and heritage communication, stimulate emotional responses and strengthen public engagement. Transforming cultural and natural phenomena into personal experiences allows information to resonate with individuals' daily lives, deepening their emotional connection to the place.

At the heart of effective storytelling lies interpretive planning: to develop an engaging narrative, it is essential to clarify what you want to interpret, how, and why, placing the audience's perspective at the centre. Analysing audience behaviour through visitor research provides the first clues for shaping the narrative. Once expectations, desired behaviours, and goals are understood, the theme of the narrative can be built. When intertwined with documented stories, real facts, and diverse points of view, the narrative becomes rooted in the territory, strengthening its relevance and impact.

The manual assists park managers precisely in having this in mind. The user-friendly handbook functions both as a comprehensive resource for advancing knowledge in heritage interpretation and communication, and as a repository of practical guidelines and operational instructions.

Communicating natural heritage is not just about providing information; it's about fostering connections, encouraging reflection, and promoting stewardship. The manual invites readers to experiment with new forms of storytelling that can transform a visit into a meaningful, lasting experience.



Creative videos of pilot areas

In their efforts to develop more positive human-nature relationships using innovative communication channels and tools, partners with pilot sites are developing creative videos of their protected areas at the Karawanken– Karavanke UNESCO Global Geopark (Slovenia/Austria), Nature reserve Chleb pilot site at the National park Malá Fatra (Slovakia), Lower Kamenjak and the Medulin Archipelago pilot site at the Cape Kamenjak (Croatia), Pietra di Bismantova and Gessi Triassici pilot sites at the Tuscan-Emilian Apennine National Park (Italy), and Bél-kő peak and Hórvalley pilot sites at the Bükk National Park. These short videos aim to show a belief that species barriers are permeable and that close relationships and communication can exist across species lines together on our pilot site.

Take a look at the available videos here, while the rest will follow soon on our **HUMANITA website**.

- Tuscan-Emilian Apennine National Park: **Pietra di Bismantova**
▶ <https://www.youtube.com/watch?v=dnpeRB4S9rg>
- Tuscan-Emilian Apennine National Park: **Gessi Triassici**
▶ <https://www.youtube.com/watch?v=aRplHE0dw58>
- Public institution Kamenjak: **Lower Kamenjak and Medulin Archipelago**
▶ <https://www.youtube.com/watch?v=6o2aqbNahNA>
- National Park Malá Fatra
▶ <https://www.youtube.com/watch?v=zTjtblhErKg>



Photos: Archive Malá Fatra National Park

Public workshop in the Malá Fatra National Park

As part of the efforts aimed at **building a narrative of common natural heritage**, the University of Zilina organised a **public workshop at the Chata pod Chlebom in the Malá Fatra National Park** on July 6th 2025. Their goal was to raise awareness among tourists about the challenges of nature conservation in the park, to explain directly in the field how human activity affects different components of nature, and how it can negatively impact them. It was also explained how improper movement of hikers along the trails leads to the creation of new, unofficial paths, which in turn accelerate erosion. As part of this event, tourists were also involved in trail maintenance. Volunteers helped carry materials - specifically gravel - for the repair of a trail at the pilot site of the HUMANITA project. The event also served as a promotional platform for the HUMANITA project, aiming to attract both public and private television channels to cover it, and creating a way for the broader public to learn more about the project and its contribution to nature conservation.





Photos: Urosh Grabner, Regina Wiedl, Lara Piko

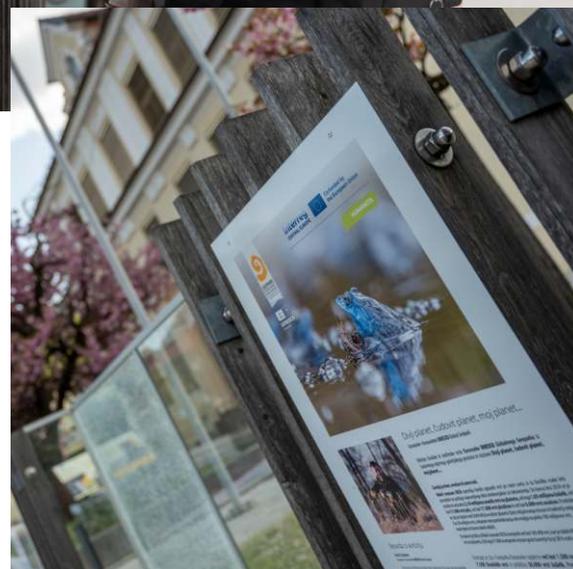
Exhibition

“Wild planet, beautiful planet, my planet...”

It is estimated that more than **1,500 plant species**, **around 7,500 animal species** and more than **30,000 insect species** can be found in the **Karawanken-Karavanke UNESCO Global Geopark**. We will never see most of it, which is why we created an open street exhibition space where we presented a piece of it.

We showcased over 120 rare, vulnerable, and exceptional animal and plant species from our natural environment. This was accomplished using large-format panels that showcase 150 photographs highlighting the diversity of wildlife and nature in our Geopark. Almost each panel includes short texts in three languages – Slovenian, German, and English – that raise awareness and provide interesting facts about selected species. These snippets are crafted to captivate visitors and motivate them to delve deeper into the content.

Additionally, anyone can **scan a QR code** to experience **the sounds of nature** while viewing the featured animals. In this way, the viewer can listen to the sounds of various large mammals, numerous birds, and even insects. This interactive element enhances visitor engagement and fosters curiosity about the importance of protecting these species and understanding their vital role in our ecosystem.





The first public presentation took place at the end of **April 2025** in the **Municipality of Mežica, Slovenia**, in collaboration with a certified Geopark elementary school that also features an open exhibition space on the street. In **June 2025**, the second exhibition opened in the **Municipality of Neuhaus, Austria**, accompanied by a comprehensive cultural program hosted by the local certified Geopark primary school.

Both exhibition spaces experience a high visitor turnout, offering individual visits as well as guided tours. **So far, the exhibition has attracted several thousand visitors from various generations, receiving positive feedback, and has received local and regional media support.**

We warmly invite you to come enjoy our outdoor exhibition! It's a great opportunity to connect with the beautiful diversity of nature all around us. We can't wait to see you there!

The innovative concept for an outdoor sustainable exhibition was thoughtfully developed by our Geopark colleague, Project Manager and photographer **Urosh Grabner**. This initiative demonstrates a commitment to environmental stewardship and seeks to engage the public in meaningful discussions about sustainability practices. Urosh's unique combination of project management expertise and artistic vision has resulted in an exhibition that not only educates but also inspires attendees to appreciate and protect our natural ecosystems.



Here is another interesting fact – The IUCN Red List keeps track of the number of species described worldwide and updates this number every year based on the latest work of taxonomy experts. **By the end of 2024, 2.16 million of the planet's known species were on the list, including 1.05 million insects, more than 11,000 bird species, more than 11,000 reptile species and more than 6,000 mammal species.** The range of all living things on our planet (not including viruses and bacteria) is thought to be somewhere between 3 and 10 million species, with some predictions as high as over 100 million species.... Many of them will never be discovered.

To date, more than 169,400 species have been assessed for the IUCN Red List, less than 8% of all known species on the planet. Of these, 47,000 species are threatened with extinction (28% of all species assessed).

New Interactive Educational Trail at Suba-lyuk:

A Model for Human -Nature Cooperation

The Bükk National Park Directorate (BNPD) has completed the interactive **"Suba-lyuk" educational trail** with monitoring spots, a pioneering achievement at the pilot site in the Hór-valley. This initiative represents a substantial deliverable within the project, demonstrating a concrete method for managing and mitigating the environmental impacts of visitors inside protected areas (PAs). The project is a major step in fulfilling our goal of developing innovative methods and data sets to detect and address the environmental pressures of tourism.

Development and easement of human-nature conflicts

The new educational trail, completed in December 2024, is a significant on-the-ground action, designed foremost to **educate visitors to minimise their pressure on the environment**.

The circular route is approximately **10 km long** and is marked with the blue T trail marker. It begins at the **Suba-lyuk Museum and Visitor Centre**, which, with its amenities and parking, serves as an ideal starting point for the majority of tourists arriving by car. The development included crucial infrastructure works aimed at **minimising trail erosion, improving visitor flow management, and making a steep path safer**. For instance, a portion of the path leading up to the historic Suba-lyuk cave involved renovation of existing stairs to ensure safer ascent. The design and installation of new informational and interactive boards at the trail's 12 stops further enhance the visitor experience and educational message.

Innovative monitoring of visitor impact

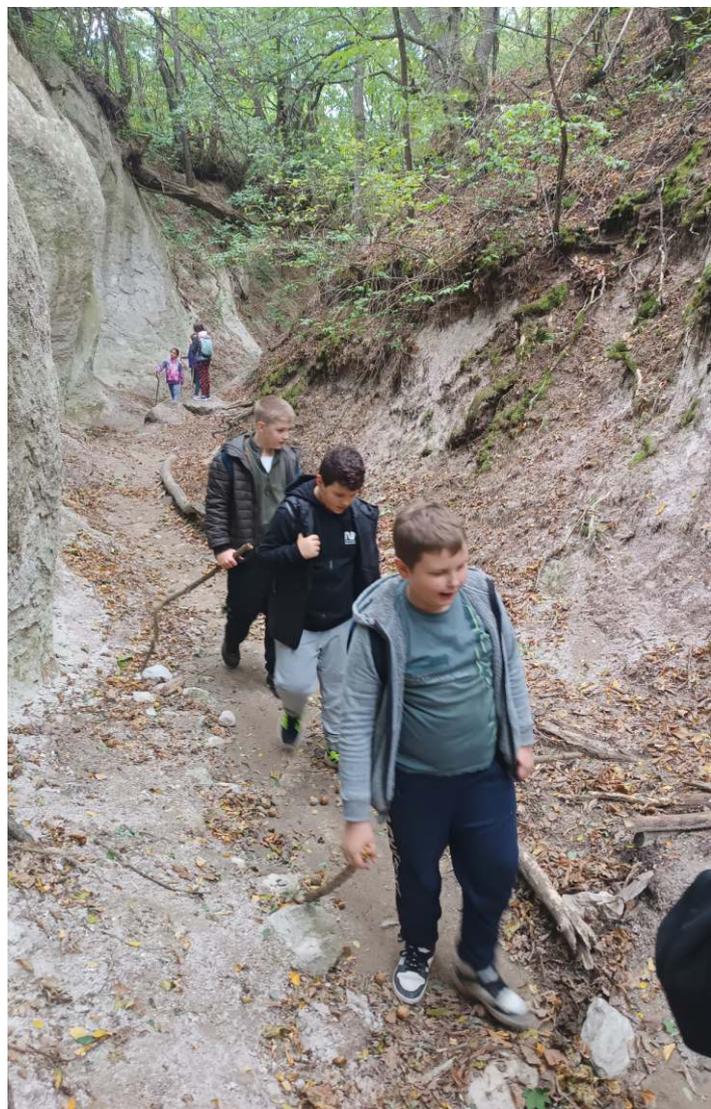
A core feature of the Suba-lyuk trail is the integration of **monitoring spots** to manage and understand human impact in real time. The Bükk National Park has been actively monitoring visitor numbers at the track leading to the Suba-lyuk cave since March 29, 2021. The automatic visitor counter provides hourly data, revealing crucial insights into visitation patterns.

Analysis of the data shows the "active season" is between May and October. The site sees an average of **51 visitors per day**, with weekend numbers spiking to an average of **94 daily visitors**, compared to 34 on weekdays. Visitor numbers peak around 11:00 AM, though visitation can last from 8:00 AM to 8:00 PM. The maximum recorded number of visitors in a single day has reached an astonishing 635 people. This precise, continuous monitoring is vital for protected area conservation and for defining future action plans.

Further, with the help of a botanist, the Bükk National Park conducted monitoring activities on the trampling damage of visitors close to the trail. Changes in the number of species belonging to natural associations, disturbed habitats and weed were proportional to overall species reduction, suggesting a general reduction possibly due to drought rather than increased human disturbance.

Preserving and teaching "common heritage"

The educational trail is an immersive journey showcasing the area's **common heritage** – bridging the geological, botanical, zoological,





and landscape history of the Hór-valley. Visitors gain a deeper understanding of the unique transitional landscape between the Bükk Mountains and the Bükk Foothills. They learn about the endemic flora and fauna, such as the protected plant species – like the variegated iris and spring pheasant's eye – found in mass on the sunny hillsides.

Most notably, the trail highlights **Suba-lyuk Cave**, one of Hungary's most important caves for understanding prehistoric humans. Visitors are directly confronted with the **prehistoric values** of the site, which owes its fame to the findings of **Neanderthal remains**, including a woman (aged 25-35 years) and a child (around 3 years old), found beneath an ancient fireplace. These remnants, dating back **80,000 to 50,000 years**, along with thousands of cracked stone tools, are a powerful reminder of the deep history shared between humanity and this unique landscape. By embracing this concept of **"common heritage"**, the Suba-lyuk educational trail fosters a new narrative and promotes a more sustainable approach to building human-nature harmony.

Photos: Archive Bükk National Park



HUMANITA Summit:

From Visitor Impact to Nature Protection – Building a Human – Nature Harmony

Lastly, it is our great pleasure to invite you to the **HUMANITA Summit: From Visitor Impact to Nature Protection – Building a Human – Nature Harmony**, the **final conference** of the HUMANITA project. The conference will take place on **February 24, 2026**, at the **EUROCENTER Office Building, Miramarska 23, Zagreb, Croatia**.

The Summit will bring together stakeholders from tourism and nature protection ecosystems who are interested in exploring innovative approaches for balancing tourism development with the protection of natural heritage, and contributing to the dialogue for building a shared vision for sustainable human–nature harmony: nature parks, protected area management institutions, tourism boards, ministries, academia, civil society, experts, and more.

This one-day international conference will feature:

- ▶ Keynote overview of the state of tourism and visitor impacts on the environment in Croatia.
- ▶ Expert presentations introducing the HUMANITA project, monitoring methods, conflict management, and case studies.
- ▶ A panel discussion on sustainable tourism and balancing visitor impact, conservation and policy implementation, gathering participants from ministries, tourism boards, national parks, academics and experts from Croatia.
- ▶ Opportunities for networking and knowledge exchange.

The Summit is intended for everyone interested in participating in creating new narratives, embracing a „common heritage“ concept and sustainable approach in building a human – nature harmony – **from students and young professionals, experienced experts and decision-makers, to local communities, visitors and tourists.**

In addition to the conference, we are happy to invite you to join us on a study trip that will take place on **February 25, 2026**, in **Plitvice Lakes National Park, Lika-Senj County, Croatia**, with a tour and an authentic „Lika“ lunch included.

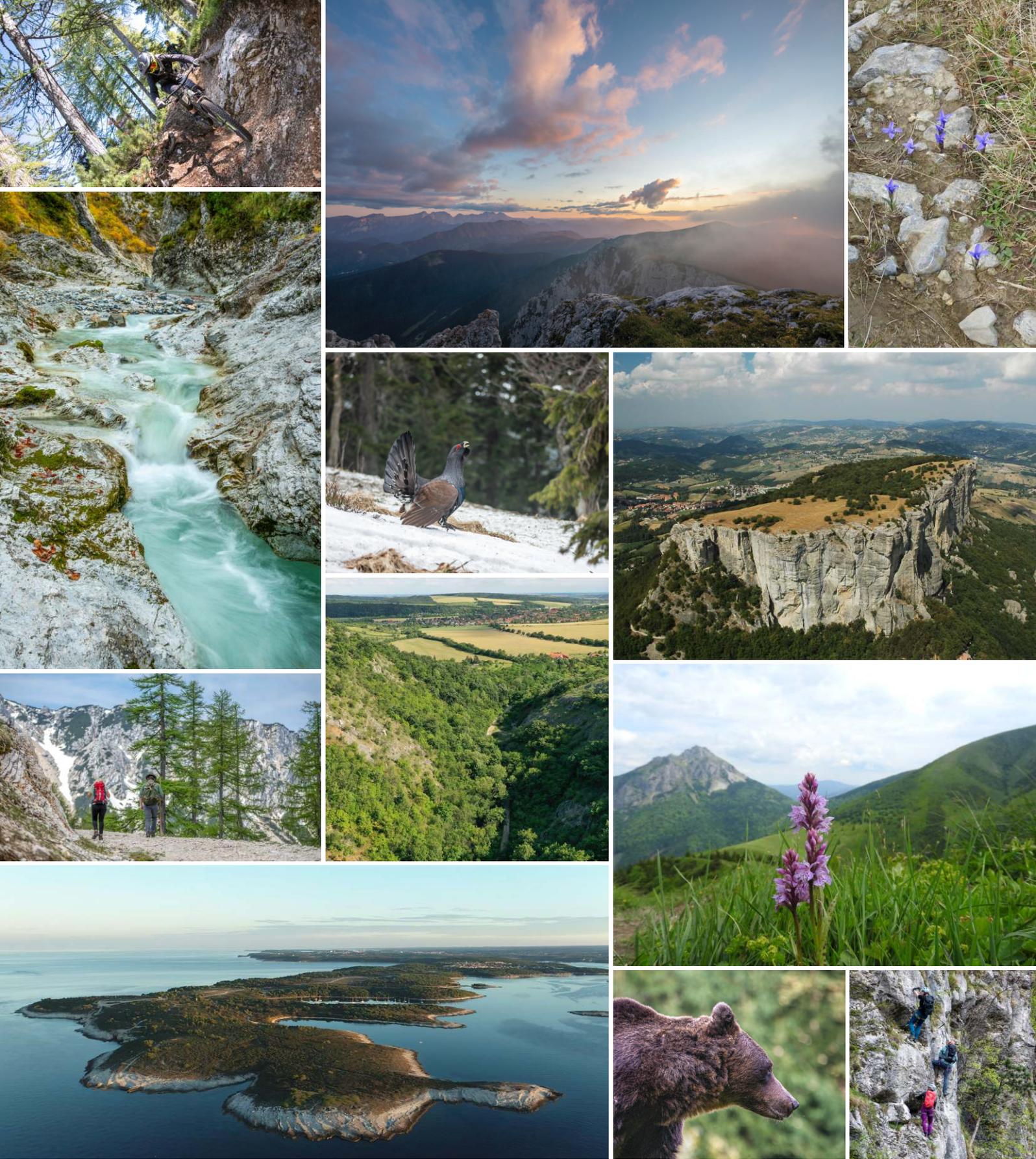
We look forward to your valuable participation in this unique opportunity to share knowledge, connect and network, and shape the future of sustainable tourism and nature protection.

THANKS FOR JOINING US!
WE'VE GOT MORE EXCITING INSIGHTS COMING YOUR
WAY, SO STAY TUNED!

Photo: FreePik







UNIVERSITY
OF ŽILINA



GEOPARK
KARAWANKEN
KARAVANKE



unesco
Global Geopark

eurac
research



KÄRNTEN
UNESCO Chair for
Sustainable Management
of Conservation Areas



unesco
Chair

NOTITIA
svjetovanje & usluge



UNIVERSITÀ
DI PARMA



Bükk Nemzeti Park
Igazgatóság



CEEweb
for Biodiversity

Kamenjak
JAVNA USTANOVA KAMENJAK



Parco Nazionale
APPENNINO
TOSCO-EMILIANO