

Green & Blue Infrastructure in a Post-Communist City Exploring Legacies and Developing Innovation

The Summer School is organised under International Visegrad Fund project “GAP - Green & Blue Infrastructure in Post-USSR Cities: Exploring Legacies and Connecting to V4 Experience” and Erasmus+ CBHE project «INTENSE - Integrated Doctoral Program for Environmental Policy, Management and Technology»

Our research-intensive school set to explore and find solutions to real life problems, with rapidly urbanising **Carpathian Mountains** selected as the case study area, will include intensive research methodology training and group work on multidisciplinary research projects.

Development of **Green & blue (GB) infrastructure** in mountain urban areas is a significant challenge due to complex land-use & cover settings, dynamic geophysical processes, and high vulnerability of mountain ecosystems to climate change. GB infrastructure development traditionally was an important issue for the Ukrainian Carpathians, a major recreational area of Eastern Europe. Many successful GB infrastructure projects were implemented here in 1970-80s. At the same time, new concepts, such as **nature-based solutions (NBS)** emerged over time, and one could expect them to evolve with traditional approaches and yield exciting outcomes. However, this does not happen and existing GB infrastructure declines, while new developments are controversial in terms of sustainability. **Visegrad Group countries (V4)**, having in 1980s similar starting conditions in terms of urban planning policies and implementation strategies, made a long way reflecting on their planning legacies and choosing development paths. When it came to the development and management of GB infrastructure, there were both vivid successes and failures. This experience is extremely useful to learn from for urban planning communities in Ukraine in order to advance sustainability of its cities.

This summer school will build research capacity and strengthen science-policy interactions for addressing these issues in urban areas of Carpathian Mountains and beyond. The **focus** will be on NBS, smart GB, participatory approaches and crowdsourcing. This discussion will be primarily based on the V4 experience. It will be analysed for its applicability in Ukrainian socio-economic, political and biophysical context.

The school will be held in the city of Yaremche in Nadvirna District of Ivano-Frankivsk Region. The participants will be engaged in group projects on a specific issue in relation to the GB infrastructure development; the locations around Yaremche provide reach opportunities for setting-up case studies encompassing a broad range of topics.

The Summer School is prepared by **V. N. Karazin Kharkiv National University** (Kharkiv, Ukraine), **Estonian Life Science University** (Tartu, Estonia) and **Institute for the Carpathians' Ecology of the Ukrainian Academy of Sciences** (Lviv, Ukraine) in cooperation with Ukrainian and international partners.

Program overview

The school consists of the following **periods**:

Pre-Field period (September 13-September 14, 2021): pre-course reading and case study materials (made available through a dedicated e-learning site from September 9, 2021), development and collection of course participants profiles with short visions for the course (to be compiled to the course participant directory) and an introductory sessions by project faculty.

In-Field period is open from September 15 to 21, 2021 in Yaremche, when the main program of the School takes place (see more in the detailed School agenda). During the in-field period we will offer a number of highly interactive sessions designed to familiarise the audience with the state of art in the field and analytical tools; this will be followed by supervised group research, and then by a Stakeholders Workshop in Ivano-Frankivsk (see the detailed Agenda). The topics for group research will be identified by students with a help of the School faculty and stakeholder representatives. The task of student groups would be to identify the particular problem they want or are capable to analyse and address given time and resource constraints, to develop research proposals containing the research question, its justification and research methodology, and to perform the research.

After-Field period, that is the time for finishing group work and making presentations of research findings to the school faculty and stakeholders at a dissemination workshop in Odessa and a final workshop in Kharkiv (see the detailed Agenda). We will collect research reports and make them available to all the participants, stakeholders and partner universities for curriculum development and learning purposes. We will encourage the students and supervising faculty to re-develop their research reports to academic papers; subject to the quality and number of quality papers, we will consider a special issue of an international peer-reviewed journal.

Eligibility, conditions, logistics

The School target audience are PhD students, junior researchers, faculty members and practitioners interested in the development and management of GB infrastructure.

The School working languages are English and Ukrainian.

If you are interested to participate in the school, we kindly ask you to fill in the **online application form**: <https://forms.gle/f26FJjyD9ftXzThe9>

Travel and accommodation will be centrally arranged by the organisers. We are striving to find the most cost efficient however decent options for accommodation and catering. The character and cost of accommodation and catering will be varying, subject to the selected case study. Full information will be provided in due course.

We will do our best to create intellectually stimulating, creative and stress-free working and living environments. It is of utmost importance to us that the School participants not only receive useful

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knowledge and add new contacts to their networks, but also enjoy local cultural diversity and scenic landscapes of Carpathian Mountains. We will work on achieving a good work-life balance to ensure that you will have positive and lasting memory of the Summer School in Yaremche.

Please be aware that in the field research area the weather is highly changeable, make sure that you have warm wind- and rainproof clothes.

School faculty

- Dr. Tereza Aubrechtova**, University of Ostrava (Ostrava, Czechia)
- Dr. Mária Bihuňová**, Slovak University of Agriculture (Nitra, Slovakia)
- Dr. Viktor Kireyeu**, Erda RTE (Rotterdam, Netherlands) and EKAPRAEKT (Minsk, Belarus)
- Siiri Külm**, Estonian University of Life Sciences (Tartu, Estonia)
- Prof. Valdo Kuusemets**, Estonian University of Life Sciences (Tartu, Estonia)
- Lagle Lõhmus**, Estonian University of Life Sciences (Tartu, Estonia)
- Prof. Nadiya Maksymenko**, V. N. Karazin Kharkiv National University (Kharkiv, Ukraine)
- Dr. Oksana Maryshevych**, Institute for the Carpathians' Ecology (Lviv, Ukraine)
- Prof. Hans-Peter Nachtnebel**, University of Natural Resources and Life Sciences (Vienna, Austria)
- Prof. Alla Nekos**, V. N. Karazin Kharkiv National University (Kharkiv, Ukraine)
- Prof. Valeriya Ovcharuk**, Odessa State Environmental University (Odessa, Ukraine)
- Prof. Anatoliy Polevoy**, Odessa State Environmental University (Odessa, Ukraine)
- Dr. Justyna Rubaszek**, Wrocław University of Environmental and Life Sciences (Wrocław, Poland)
- Prof. Kalev Sepp**, Estonian University of Life Sciences (Tartu, Estonia)
- Dr. Anton Shkaruba**, Estonian University of Life Sciences (Tartu, Estonia)
- Dr. Iryna Shpakivska**, Institute for the Carpathians' Ecology (Lviv, Ukraine)
- Dr. Hanna Skryhan**, EKAPRAEKT (Minsk, Belarus)
- Dr. Marcin Spyra**, Opole University of Technology (Opole, Poland) and Martin Luther University Halle-Wittenberg (Halle, Germany)
- Dr. Kateryna Utkina**, V. N. Karazin Kharkiv National University (Kharkiv, Ukraine)



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Coordinating team

Prof. Nadiya Maksymenko, Coordinator of the Visegrad Fund GAP project

Dr. Anton Shkaruba, Vice-Coordinator of the Erasmus+ INTENSE project

Dr. Hanna Titenko, School Co-Director

Dr. Viktor Kireyeu, School Co-Director

Dr. Iryna Shpakivska, Local Coordinator

Contacts, information and updates

- logistics, accommodation, applications and enrolment: Nadiya Maksymenko, nadezdav08@gmail.com, and Iryna Shpakivska, ishpakivska@ukr.net
- academic planning and research: Viktor Kireyeu, kirejeu@yahoo.com

Updated information will be available on project websites:

- GAP - Green & Blue Infrastructure in Post-USSR Cities: Exploring Legacies and Connecting to V4 Experience (<http://ecology.karazin.ua/mizhnarodna-dijalnist/v4-gbi/>)
- INTENSE - Integrated Doctoral Program for Environmental Policy, Management and Technology (<http://intense.network/>)

Facebook event: <https://www.facebook.com/events/1361081540914710/>



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Venues

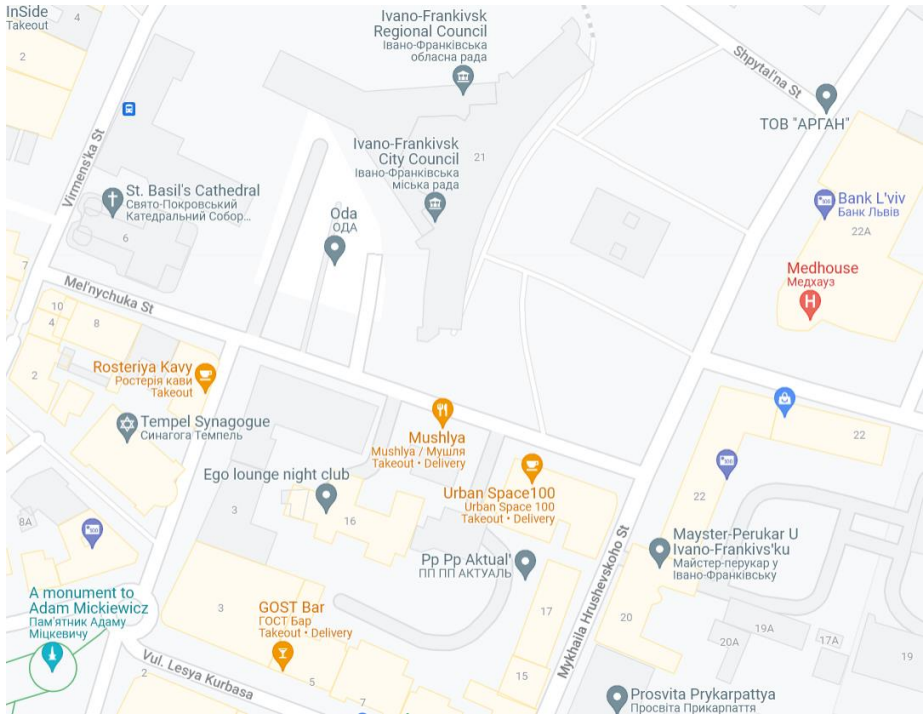
Venue for Summer School sessions in Yaremche

Vasylya Stusa Street, 6, Carpathian National Nature Park Administration



Venue for Stakeholders Workshop in Ivano-Frankivsk

Mykhaila Hrushevskoho Street, 21, Ivano-Frankivsk City Council



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Detailed agenda of the Summer School

September 13, Monday

- 9.00 – 10.00 Anton Shkaruba (online), Introduction to the School
- 10.00 – 11.00 Hans-Peter Nachtnebel (online), Increasing flood risk in Alpine regions
- 11.00 – 12.00 Anatoliy Polevoy (online), Green infrastructure modelling: production process in plants
- 12.00 – 13.00 Marcin Spyra (online), Basic concepts for peri-urban development

September 14, Tuesday

- 9.00 – 10.00 Hanna Skryhan (online), Reconciling cities with urban nature: towards the integration of ecosystem disservices in inclusive spatial planning
- 10.00 – 11.00 Justyna Rubaszek (online), Are the roofs of existing buildings suitable for greening? Assessment of the potential of prefabricated buildings to install green roofs in the context of UHI

Departure for Yaremche

September 15, Wednesday

- 9.00 – 10.00 Breakfast
- 10.00 – 11.00 Book reading and discussions
- 11.00 – 11.30 Nadiya Maksymenko, Introduction to the field period
- 11.30 – 12.00 Iryna Shpakivska, Overview of the case study area and logistics
- 12.00 – 13.00 Viktor Kireyev, Group project introduction and brainstorming session
- 13.00 – 14.00 Lunch
- 14.00 – 15.00 Oksana Maryshevych, City sustainability in mountain contexts. A case of Ukrainian Carpathian Mountains
- 15.00 – 18.00 Development of independent research projects
- 18.00 – 19.00 Dinner

September 16, Thursday

- 9.00 – 10.00 Breakfast
- 10.00 – 13.00 Visits to stakeholders in Yaremche
- 13.00 – 14.00 Lunch
- 14.00 – 15.00 Iryna Shpakivska, Carbon sequestration capacity of urban ecosystems
- 15.00 – 16.00 Kalev Sepp, Green infrastructure and nature-based solutions in Estonia
- 16.00 – 17.00 Valdo Kuusemets, Sustainable Urban Drainage Systems
- 17.00 – 18.00 Siiri Külm, Raising biodiversity in urban green spaces
- 18.00 – 19.00 Dinner

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September 17, Friday

- 9.00 – 10.00 Breakfast
- 10.00 – 13.00 Research excursion to Ivano-Frankivsk
- 13.00 – 14.00 Lunch
- 14.00 – 14.20 Stakeholder workshop: introduction to the workshop
- 14.20 – 15.20 Stakeholder workshop: presentations of local scale projects
- 15.20 – 16.00 Stakeholder workshop: presentations of city scale projects
- 16.00 – 17.00 Stakeholder workshop: wrap up discussion
- 17.00 – 18.00 Transfer to Yaremche
- 18.00 – 19.00 Dinner

September 18, Saturday

- 9.00 – 10.00 Breakfast
- 10.00 – 11.30 Valeriya Ovcharuk, Disaster Floods on the Rivers of the Earth and Ukraine as a Risk Factor for Sustainable Development of Mountain Areas
- 11.30 – 13.00 Hans-Peter Nachtnebel, Soft and green measures to successfully restore surface water bodies for recreational purposes. A case study from Vienna
- 13.00 – 14.00 Lunch
- 14.00 – 15.00 Alla Nekos, Visual Ecology tools for enhancing urban environment
- 15.00 – 16.00 Kateryna Utkina, GB infrastructure in urban waste management
- 16.00 – 18.00 Group consultations
- 18.00 – 19.00 Dinner

September 19, Sunday

- 9.00 – 10.00 Breakfast
- 10.00 – 18.00 Research excursion to Zaroslyak and Hoverla
- 18.00 – 19.00 Dinner

September 20, Monday

- 9.00 – 10.00 Breakfast
- 10.00 – 13.00 Visits to stakeholders in case study areas
- 13.00 – 14.00 Lunch
- 14.00 – 18.00 Group consultations and independent work
- 18.00 – 19.00 Dinner

September 21, Tuesday

- 9.00 – 10.00 Breakfast
- Departures and group work

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September 22, Wednesday

Group work

September 23, Thursday

Group work

September 24, Friday

A summer school dissemination workshop in Odessa

September 25, Saturday

Consultations, work on group project presentations

September 27, Monday

Final workshop, group work presentations (live and through videoconferencing)



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Group research

The central component of the School is supervised group research. The research groups (3-5 participants) will be expected to address the issues of development, management and maintenance of GB infrastructure in the context of climate, landscape, demographic, and socio-economic change. The case studies will be set at different locations in Yaremche urban area characterised by a broad range of issues and disturbing trends (see the map).



The research will be implemented according to research plans prepared during case study introduction and brainstorming sessions at the beginning of the School. Most of the research will be done in the Yaremche Urban Area and its neighbouring urban areas of Vorokhta, Nadvirna, and Kolomyia. If necessary, the organizers will provide support in arranging interviews with the representatives of stakeholder groups in Yaremche and elsewhere in the region.

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Information about School organisers

The Summer School **Green & Blue Infrastructure in a Post-Communist City: Exploring Legacies and Developing Innovation** is co-organised and co-funded by a consortium of international partners financed by several funding programs:

Visegrad+ Grant GAP – *Green & Blue Infrastructure in Post-USSR Cities: exploring legacies and connecting to V4 experience* (No. 22020186) by International Visegrad Fund (<http://ecology.karazin.ua/mizhnarodna-dijalnist/v4-gbi/>): V. N. Karazin Kharkiv National University (coordinating institution, Ukraine), Wrocław University of Environmental and Life Sciences (Poland), NGO Ekapraekt (Belarus), Estonian University of Life Sciences (Estonia), The Institute Ecology of the Carpathians (associate partner, Ukraine)

CBHE project INTENSE - *Integrated Doctoral Program for Environmental Policy, Management and Technology* by the Erasmus+ programme (<http://intense.network/>): Estonian University of Life Sciences (coordinating partner, Estonia), University of Natural Resources and Life Sciences (Austria), V. N. Karazin Kharkiv National University (Ukraine), The Institute Ecology of the Carpathians (Ukraine), Odessa State Environmental University (Ukraine)



The European Commission support for the production of this publication does not constitute endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein

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