МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ

КИЇВСЬКИЙ НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ
ІМЕНІ ТАРАСА ШЕВЧЕНКА

ГЕОГРАФІЧНИЙ
ФАКУЛЬТЕТ

МАТЕРІАЛИ

МІЖНАРОДНОЇ НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ

ПРИРОДНИЧО-ГЕОГРАФІЧНІ ДОСЛІДЖЕННЯ РЕЛЬЄФУ, КЛІМАТУ ТА ПОВЕРХНЕВИХ ВОД: СУЧАСНИЙ СТАН ТА ПЕРСПЕКТИВИ РОЗВИТКУ

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ДО 75-РІЧЧЯ КАФЕДР
ЗЕМЛЕЗНАВСТВА ТА ГЕОМОРФОЛОГІЇ,
МЕТЕОРОЛОГІЇ ТА КЛІМАТОЛОГІЇ,
ГІДРОЛОГІЇ ТА ГІДРОЕКОЛОГІЇ

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CLUVEX PROJECT EXPERIENCE: VIRTUAL EXCHANGES AS A VALUABLE COMPLEMENT TO TRADITIONAL PHYSICAL STUDENTS' MOBILITY IN THE FIELD OF CLIMATE CHANGE RESEARCH

According to EU Youth Strategy 2019–2027 all young people should have the necessary resources to participate in society. Climate University for Virtual Exchanges (CLUVEX; https://www.atm.helsinki.fi/cluvex; 1 Jul 2023 – 30 Jun 2026) is a 3-year project conducted by two European Erasmus+ program countries Finland (UHEL) as the coordinator and Denmark (UCPH), and the Neighbourhood East countries – Ukraine (OMNU and TSNUK) and Armenia (YSU), as well as an art-and-science non-profit association, the BioArt Society (https://bioartsociety.fi), based in Finland. The project heeds the three keywords of the EU Youth Strategy 2019–2027 "engages, connects and empower" and involves university students from Europe and Neighbourhood East countries in novel learning and digesting of soft skills by virtual exchange, but also at the same time, encourages to open-mindedness and supporting the development of interpersonal and intercultural skills. Soft skills in the proposed project context are "enabling the individuals to make decisions, solve problems, think critically and creatively, communicate effectively, recognize the emotions of others, build relationships at physical and emotional level" as determined by World Health Organization (2003). Youth and young academics have a crucial role to take the lead in the collective behaviour change needed to mitigate climate change (Blakemore, 2018). Youth is also the time when behavioural and well-being problems can emerge or worsen with consequences that stick long into adulthood (Paus et al, 2008; Salmela-Aro, 2017).

CLUVEX aims to connect students from European and Neighbourhood East universities and involve them in climate-related topics, including ideas for adapting to and mitigating the effects of climate change and advancing the green agenda. Moreover, CLUVEX emphasizes the development of interdisciplinary, green, and soft skills among students. In practice, CLUVEX is responsible for designing and organizing a series of interactive online training events known as "Virtual Exchanges" (VE). These VEs are structured to include educational materials and engage students, professors, teachers, and researchers collaboratively in small groups.

During the project, a total of 5 VE Calls will be initiated, spanning both the Spring and Autumn semesters and starting from Autumn 2024. Each VE Call will extend invitations to 500 students from CLUVEX Universities and other institutions in European and Neighbourhood East countries to participate in VE training weeks. The main motivation is to cultivate a new generation of young Climate Messengers with the skills and knowledge to foster climate awareness and sustainability strategies within their home organizations and future professional endeavours.

During VE week, various activities will take place, including plenary sessions, discussions, and exercises focused on specific climate change topics within smaller groups. CLUVEX is rooted in atmospheric sciences research and builds from the Climate University (https://climateuniversity.fi). The goal is that after participating in VE, participants will gain a deeper understanding of climate-related issues and foster meaningful connections with their peers. Note, CLUVEX also leverages its networks - Una Europa (alliance of 11 European universities) and the WMO's Global Campus initiative in Europe and Neighbourhood East, to attract a diverse array of participants.

During the first year of the project, the CLUVEX Partners are focused on designing the VE concept and exercises, training VE moderators/ facilitators, conducting a study to understand the challenges and opportunities associated with online learning and communication. As an exciting

innovation, the BioArt Society will bring artistic perspectives by offering VE lectures and creative exercises that explore how contemporary art contributes to public discourse on climate change.

VE cooperation will serve as a valuable complement to traditional physical mobility opportunities in the field of climate change research. CLUVEX plays a vital role in addressing the complex web of decisions and issues related to climate change, where the Neighbourhood East region holds also significant position on a global scale. The emergence of new Climate Messengers, equipped with expertise in climate awareness and sustainability strategies, is highly relevant in today's labour markets. These individuals are well-positioned to contribute to the critical work of advancing climate-related initiatives in a world undergoing transformative changes.

The CLUVEX contributes to exchange of knowledge and experience, research findings, which will equip the students to be active contributors for the transition to green societies. The CLUVEX partners have a special expertise in this task as carrying out frontier research in atmospheric sciences (climate change and air quality, clean air in the cities) and educators of young scientists who can become facilitators of ecological renaissance in various spheres of their employment. The project has, as addressed in the European Education Area, an ambitious geopolitical dimension and is contributing to the attainment of the 2030 Sustainable Development Goals (SDGs). CLUVEX fits into the climate action aims, it will also recognize United Nation SDGs. The project has scientific capacity especially to address thematic and science related to the 2030 SDGs. In particular, SDGs 11, 12 and 13 call us to ‘take urgent action to combat climate change and its impacts’ (SDG 13), to ‘ensure sustainable consumption and production patterns’ (SDG 12) and to ‘make cities and human settlements inclusive, safe, resilient and sustainable’ (SDG 11, UN 2015, 26-28). Many of the specific targets listed under these goals focus on raising awareness about climate friendliness and sustainable lifestyle as well as on supporting sustainable national and international policy-making, business and use of resources. CLUVEX acknowledges that different societies, communities and individuals all have specific needs and makes a special effort in the Europe - Neighbourhood East countries context. Climate change is a key driver of climate-related risks, but it is not the only one. The regional impacts of climate change also depend on the development of environmental, socio-economic, political, and technological conditions at the regional scale.

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ОСОБЛИВОСТІ БІОКЛІМАТИЧНИХ УМОВ КРИВОГО РОГУ

Вступ. Кривий Ріг належить до найбільших міст України – він є сьомим за кількістю населення та другим за площею містом нашої держави. Кривий Ріг є потужним промисловим центром та відомий низкою екологічних проблем, серед яких, перш за все, забруднення повітря, водних об’єктів та ґрунтів. Проте, в останні роки у Кривому Розі, як і на всій території Україні, посилилися прояви глобальної зміни клімату, що виявляється у підвищенні температури повітря, зростанні частоти тропічних ночей та хвиль тепла, змінах у режимі випадання опадів та повторюваності стихійних гідрометеорологічних явищ. Зростання повторюваності днів з тепловим стресом та термічного навантаження на людей у літній період призводить до зниження комфортності території для проживання, погіршення самопочуття, підвищення частоти певних видів захворювань, а в окремих випадках (наприклад, під час потужних або тривалих хвиль тепла) навіть – до зростання смертності. Саме тому оцінка біоклімату Кривого Рогу є важливою науковою та прикладною задачею, адже її результати