EAGE

EUROPEAN ASSOCIATION OF GEOSCIENTISTS & ENGINEERS

TECHNICAL PROGRAMME

Second EAGE Workshop on assessment of landslide hazards and impact on communities

8-11 September 2020
Kyiv, Ukraine

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Dear Colleagues,

It is our great pleasure to welcome you to the Second EAGE Workshop on Assessment of Landslide Hazards and impact on communities (Kyiv, Ukraine). This unique workshop is intended to bring together researchers and practitioners from Europe and the world to share recent advances in the assessment of landslide hazards and development of new techniques for risk mitigation.

Oral presentations will be presented in sessions covering virtually the entire spectrum of the landslide hazard assessment in the mountain areas including numerical modelling, simulation of cascading mass flows in GIS, creation of national landslide database, morphometric analysis for landslide susceptibility mapping and others.

We would like to take this opportunity to express our thanks to all people who help make this conference a success. We wish you an enjoyable time in Kyiv.

Prof. Olena Ivanik

Conference chairman

The Workshop co-organized and partly funded by Research England Global Challenges Research Fund (GCRF), provided by Research England within the framework of Research Project “Building landslide-resilient communities” (City, University of London and Taras Shevchenko National University of Kyiv (Ukraine)

VENUE

Main venue:

Institute of Geology of Taras Shevchenko National University of Kyiv

Ukraine, 03022, Kyiv, 90 Vasylkivska str.

Virtual venue: Please register via link Landslide ZOOM Room

Meeting ID: 823 9149 8628

Passcode: 2020

PROGRAMME HIGHLIGHTS

Tuesday, September8

11.00 – 15.30 Registration

12.00 – 13.00 Opening Session

13.00 – 15.00 General session

15.20 – 17.30 Virtual Field trip

GENERAL SESSION

13:00	Evaluating natural hazards in Ukraine: the risk assessment ***O.M. Ivanik** *(Taras Shevchenko National University of Kyiv, Ukraine)*
13:30	Material Point Method modelling of cascading effects of flow-like landslides***Sabatino CUOMO** *(University of Salerno, Italy)*
14:00	Landslide hazard assessment and forecast of landslides within territories of the southwestern outskirts of the East European Platform, the Pre-Carpathian Deflection and the Carpathian region of Ukraine ***Rudko H.** *(State Commission of Ukraine on Mineral Resources, Ukraine)*
14:30	"Natural and man-induced landslides formation factors within the Apshytsia-Tysa interfluve (Transcarpathia, Ukraine)" ***S.B. Shekhunova, M.V. Aleksieienkova, T.V. Kril, S.M. Stadnichenko, N.P. Siumar** *(Institute of Geological Sciences NAS of Ukraine, Kyiv, Ukraine)*

Wednesday, September9

9:30 – 10:00 Morning coffee

9.00 – 17.00 Registration

10.00 – 18.00 Technical Sessions

19.00 – 23.00 Workshop evening

Thursday, September 10

7:30 – 21:00 One day Field trip

Friday, September11

14.00 – 16.00 Kyiv excursion

TUESDAY, 8SEPTEMBER – HALL A

GENERAL SESSION	
13:00	Evaluating natural hazards in Ukraine: the risk assessment ***O.M. Ivanik** *(Taras Shevchenko National University of Kyiv, Ukraine)*
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WEDNESDAY, 9SEPTEMBER – HALL A

Advanced technologies for landslide and debris flows hazard analysis Session Chair: Olena Ivanik	
9:00	Morning coffee
9:30	Soil erosion magnetic measurements as a tool for landslides studies ***Menshov O., Kruglov O., Nazarok P., Andreeva O., Kruhlov B.** *(Taras Shevchenko National University of Kyiv Ukraine)*
9:55	Risk assessment of landslides and debris flows during the construction and exploitation of the Volovets wind farm in the Western part of the Polonina Borzhava (Zakarpattia region, Ukraine) ***Yaremovych M.** *(LLC «Geol-tech», Lviv, Ukraine)*
Assessment of geological hazards and new techniques for risk mitigation	
10:20	Environmental consequences of the creation of anti-landslide coastal protection structures in the coastal zones of sea areas (on the example of the Odessa coast) ***N. Fedoronchuk** *(State Scientific Institution "Centre for Problems of Marine Geology, Geoecology and Sedimentary Ore Formation of the National Academy of Science of Ukraine")*
10:45	Social perception of the landslide hazards by residents of Kyiv landslide-prone areas ***Borovskiy O., Bondarenko M., Mazko A.** *(Taras Shevchenko National University of Kyiv, Ukraine)*
11:10	Telceker Landslides; Mass Flow Morphology and Seismotectonic Influences on Hazard Mitigation. Dogubayazit. Agri, Eastern Turkey ***Mehmet Salih Bayraktutan** *(Igdir University, Turkey)*
11:35	Break
Remote sensing for landslide and debris flows investigations Session Chair: Olena Ivanik	
11:50	Preliminary results of changes in the marine-terminating part of Trooz Glacier (West Antarctica) during 2001-2020 ***Marusazh K., Savchyn I., Lozynskyi V. and Petryk Y.** *(Lviv Polytechnic National University)*
12:15	Studying the dynamics of technogenic changes in water objects of the South Kryvbass with the complex of remote methods ***P. Pigulevskiy** *(Institute of Geophysics, Kyiv, Ukraine)*, **V. Svystun** *(DGE "Dniproheofizyka", Dnipro, Ukraine)*

WEDNESDAY, 9SEPTEMBER – HALL A

Monitoring and multiscale modelling of landslides and debris flows Session Chair: Olena Ivanik	
14:00	Study of Structural-Geological Conditions of Landslide Processes Forming and Development of an Example of Odesa Portside Plant Territory (Ukraine) **Cherkez E.A, *Kozlova T.V., Medinets V.I., Mytynskyy V.M., Medinets S.V., Soltys I.E.** *(Odessa National I.I. Mechnikov University, Ukraine)*
14:25	Development and evolution of landslides formed in Neogene clay ***I. Kaliukh, Kosheleva N., Slyusarenko Y., Marienkov N., Gluhovskii V., Ischenko Y.** *(State Enterprise "Research Institute of Building Constructions")*
14:50	Application of geophysical methods for monitoring of landslide hazards: case study from lake Glynka (Kyiv, Ukraine) **Ivanik O., Shabatura O., Chernov A., *Hadiatska K., Kravchenko D., Khomenko R.** *(Taras Shevchenko National University of Kyiv, Ukraine)*
Local forecasting of landslides and debris flows in the mountain areas	
15:15	Engineering and Geodynamics Conditions of Economic Development and Construction on Landslide Slopes in Odesa Coast ***Cherkez E.A, Kozlova T.V., Medinets V.I, Soltys I.E., Medinets S.V.** *(Odessa National I.I. Mechnikov University, Ukraine)*
15:40	Reconstruction of the geomorphosystem of the upper reaches of the Black Tisza river basin due to the action of natural and natural-anthropogenic factors ***Komliev A.** *(Taras Shevchenko National University of Kyiv, Ukraine)*, **Zhylkin S.** *(Institute of Geography of NAS of Ukraine, Ukraine)*, **Kovtoniuk O.** *(Taras Shevchenko National University of Kyiv, Ukraine*), **Lavruk T.** *(Taras Shevchenko National University of Kyiv, Ukraine)*, **Filonenko Yu.** *(Nizhyn Mykola Gogol State University, Ukraine)*
16:00	Interrelation between mesostructures and small landslides on the example of Pistynka River Valley ***Younis Abdulgader Awad Abduljawad, V. Lukomskiy, O. Biletskiy, D. Andreev, D. Kravchenko** *(Taras Shevchenko National University of Kyiv, Ukraine)*
16:10	Break
Regional forecasting of landslides and debris flows	
16:25	Geodynamics and geohazards in the Middle Dnieper Region (Ukraine) **Schevchuk V.V, Ivanik O.M, *Tustanovska L.V., Kravchenko D.V., Hadiatska K.P., Tiukhtei A., PikulS.T.** *(Taras Shevchenko National University of Kyiv, Ukraine)*
16:50	Prediction and stabilization of landslides based on their classification ***Yaholnyk A.M., Bida S.V., Lartseva I.I, Vovk M.O.***(National University "Yuri Kondratyuk Poltava Polytechnic")*
17:15	

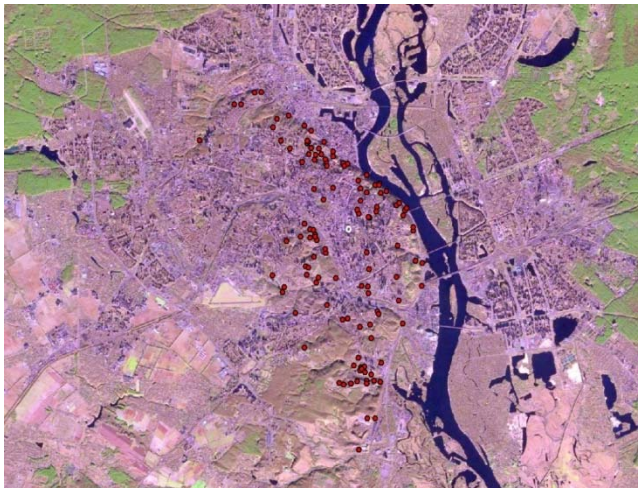
VIRTUAL FIELD TRIP

One-day field trip will take place within the Middle Dnieper area of Ukraine. This area features active development of landslide phenomena, suffusion processes, floods and side erosion of riverbeds.

Field equipment for the assessment of geohazards will be demonstrated (GPR, electrotomography, Infrared Thermography (IRT)).

Our route will cross tectonic zones of Ukrainian Shield. We shall see reference cross-section of Paleogene, Neogene and Quaternary deposits. These zones feature various manifestations of geological hazards caused by human impact and/or natural factors.

The journey will start in Kyiv, where a great number of active landslides occurred (more than 150).



Distribution of landslides in Kyiv area

For many years, geologists and engineers alerted about landslide hazards in this area. The determining factors of these processes are lithological and stratigraphic conditions; hydrogeological regime; structural and textural features of rocks and forms of their occurrence; geomorphology of slopes. The second category of factors includes dynamic processes that change the state of slopes, erosion, weathering, tectonic regime of the area, and anthropogenic effects. We shall observe landslide processes of various kinds, river erosion, and rockfalls.

Rotational Landslides in Kyiv and their investigations by drones (Lysa Mountaine)

One of our observation points will be a major landslide in central part of Kyiv (near metro station Lybidska), which emerged March, 2013 and caused accident. The main sources of this accident are hydrogeological factor, heavy precipitation and human activity.

Landslide near metro station Lybidska

Active landslide processes will be a subject of our inspection in Rzhyshchiv village. We shall speculate about possible causes of these processes. The principal factors in their formation are abrasion, geomorphological and tectonic features. We shall discuss the potential use of geophysical methods and Infrared Tehermography (IRT) for forecast of such processes.

We shall see the consequences of landslides and consider main factors of their formation. We shall learn principal stages of field data collection for mathematical modelling of landslides and assessment of their hazardous impact on the infrastructure.

Landslides in Rzhyshchiv village and surrounding area