

CIVIS SHORT TERM MOBILITY PROGRAMME

WEBINARS ON GEOMORPHOLOGY AND QUATERNARY GEOLOGY

The course contributes to the CIVIS goals by organizing this joint learning activity, facilitating the exchange of knowledge amongst participating Universities and building common research-based training for CIVIS students. Different aspects of geomorphology and Quaternary geology will be addressed from the CIVIS partnership, bringing particular expertise, that will allow to improve the regular learning outcomes of students and provide them a more thorough education.

The objective of the course “Webinars on Geomorphology and Quaternary Geology” is to provide students with new skills and knowledge, facilitating their education with no economic barriers.

- Target audience: Bachelor students, Master students and PhD candidates
- Structure of the course: The activity is a short-term virtual mobility course that consists of five webinars on different topics of geomorphology, geomorphological hazards and Quaternary geology. Each webinar will take place on a different day with a duration of 2-3 hours
- Dates of the course: The course will take place during the International Geomorphology Week, 1-5 March 2021/ Duration of program 5 days
- Conditions of application-enrolment: The webinar is open to students from the CIVIS partnership and from other universities outside the partnership, with a background on geology, geomorphology, and environmental sciences. Participants who are interested to attend are asked to register using an online google form.
- Application deadline: Deadline for application is Monday 22 February 2021
- Notification date for selected participants: the course will be open to all students who have applied. A notification email with all details for the webinars will be communicated to participants, two days after the application deadline.
- Programme description (max 70 words): Each webinar will take place on a different day with a duration of 2-3 hours
 - Coastal geomorphology and Holocene Sea level changes – National and Kapodistrian University of Athens – 01/03/2021, 11:00-14:00
 - Applied geomorphology in territorial planning – University of Bucharest – 02/03/2021, 11:00-14:00
 - Quaternary stratigraphy and paleoglaciology – Stockholm University – 03/03/2021, 11:00-14:00
 - Fluvial geomorphology – human impacts and their effects on fluvial systems – flash floods – Harokopio University, Greece – 04/03/2021, 11:00-14:00
 - Long-term coastal landslide evolution and sea-level change – University of Modena and Reggio Emilia, Italy – 05/03/2021, 11:00-14:00

The webinars will include lectures on the topics below:

- **Coastal geomorphology and Holocene Sea level changes** – provided by National and Kapodistrian University of Athens

This webinar aims to train students on how to understand relative sea level changes using sea level indicators. The topics will include the various types of sea level indicators, such as archaeological,

geomorphological, sedimentological, biological with emphasis on the accuracy of each type and the information obtained. Students will also be educated on the main dating methods for sea level indicators. The webinar will deal with the usefulness of sea level indicators in the identification of palaeoseismicity, with examples from the eastern Mediterranean. The webinar will also discuss coastal geomorphology topics, such as coastal hazards with focus on palaeo-tsunamis, coastal erosion, impacts of climate change and adaptation and the evolution of the coastal zone during the Holocene.

- **Applied geomorphology in territorial planning** – provided by University of Bucharest

This webinar aims to train students on how to understand the role of geomorphological research for optimal spatial planning. The strategy of territorial developing starts from the knowledge of the shape, nature and dynamic of landforms which are in a continuous evolution and transformation. Students will learn to conduct researches using specific principles, methods and techniques in order to identify and analyse geomorphological processes, including natural hazards (such as floods, landslides, ravines, lateral erosion) and their risks for society. It will be discussed how the geomorphological analysis can be used to design development policies in order to organize sustainable socio-economic activities accordance with an efficient environmental planning and management.

- **Quaternary stratigraphy and paleoglaciology** – provided by Stockholm University

The main focus of this webinar/online lecture will be the development of the Fennoscandian Ice Sheet during the Quaternary glaciations with special emphasis on the deglaciation of the Weichselian ice sheet. The topics will include Quaternary stratigraphy and glacial landforms and how these can be used for ice sheet reconstructions. This webinar/online lecture will also discuss methods for dating glacial landforms and sediments, for example TCN dating, clay-varve chronology and tephrochronology

- **Fluvial geomorphology – human impacts and their effects on fluvial systems – flash floods** - provided by Harokopio University, Greece

This webinar aims for the students to become familiar with fluvial processes in tectonically active areas and to understand the influence of human activities on the “fluvial system”. The webinar will deal with fluvial processes (erosion, sediment transport and deposition), the factors affecting these processes (e.g. climate, tectonic activity etc.) with special focus on human activities (climate change, channel alignment, dam construction, urbanization etc.). The topics will also include extreme fluvial processes/fluvial hazards with special emphasis on flash floods providing examples from Greece. The webinar will also discuss flood-risk management in ungauged catchments.

- **Long-term coastal landslide evolution and sea-level change** – provided by University of Modena and Reggio Emilia, Italy

The lecture presents a multidisciplinary approach based on the integration of terrestrial and marine datasets which can be used in the investigation of the long-term geomorphological evolution of coastal landslides. The results of research carried out in the open-air laboratory of the Maltese Islands (central Mediterranean Sea) will be shown with particular emphasis on the: (i) understanding of the paleo-environmental conditions under which the landslides developed; (ii) identification of their conditioning and triggering factors; (iii) assessment of landslide hazard. The research carried out on emerged coastal landslides was integrated with identification and mapping of submarine landslide deposits by means of a Digital Elevation Model based on a multibeam survey coupled with an airborne bathymetric LiDAR (Light Detection And Ranging) survey.

In addition, the time frame of possible landslide onset was determined by means of Cosmogenic Radionuclide Exposure dating (CRE).

- List of CIVIS member Universities involved: 1) National and Kapodistrian University of Athens, Greece, 2) University of Bucharest, Romania, 3) Stockholm University, Sweden. Non-CIVIS partner Universities: 4) Harokopio University, Greece, 5) University of Modena and Reggio Emilia, Italy. Participant academics (indicating university, department, e-mail)
 - Prof. Niki Evelpidou, Faculty of Geology and Geoenvironment, National and Kapodistrian University of Athens, evelpidou@geol.uoa.gr
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 - Prof. Andreea Andra-Toparceanu, Faculty of Geography, University of Bucharest, andreea.andra@geo.unibuc.ro
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- List of NON-CIVIS Universities partners: 1) Harokopio University, Greece, 2) University of Modena and Reggio Emilia, Italy. Non-CIVIS academics:
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