

**World Centre of Excellence (WCoE-2017-2020)**  
**Progress Report Form 2019**  
**1 January 2018 to 31 December 2018**

1. Short Title of WCoE: Geological data and landslide risk reduction at local scale
2. Name of Institution (Name of leader and email): Mateja Jemec Auflič, PhD.; Geological Survey of Slovenia, Dimičeva ulica 14, 1000 Ljubljana, Slovenia, [mateja.jemec@geo-zs.si](mailto:mateja.jemec@geo-zs.si)
3. List of core members: Jernej Jež, Miloš Bavec, Tina Peternel, Bogomir Celarc
4. Progress report of activities up to 31 December 2018 (up to 30 lines)

In order to meet goals of the proposal we oriented our activities in 2018 on studying of landslides in the hinterland area of the Koroška Bela settlement, NW Slovenia. In order to recognize and understand the kinematics of landslides and their triggering mechanisms, a multidisciplinary approach using engineering-geological and geotechnical investigations was applied. Thus, landslide source areas were determined based on engineering-geological mapping, additionally hydrogeological investigations prove that the ground water regime and percolation influence on the landslide movement. Within the collaboration of University of Ljubljana, Faculty of Civil and Geodetic Engineering the volume of sliding mass in the hinterland area of the Koroška Bela has used to determine the debris flow magnitude. Activities toward better understanding and reducing landslide disaster risk are focused also on understanding of landslide risk through learning by doing. The cooperative team has been established for the purpose of raising awareness and understanding of landslide risk in the community of Koroška Bela.

With collaboration of University of Ljubljana, Biotechnical Faculty, Department of Forestry and Renewable Forest Resources, we reconstructed the reactivation of landsliding in the last 138 years in Urbas landslide (hinterland of Koroška Bela) using dendrochronological sampling.

The core members have started working on the EU project GIMS and U-Geohaz, focused on monitoring surface deformation by a new, low cost advanced technology (GNSS, Sentinel-1 and MEM sensors) and developing software to process SAR data for monitoring urban areas. Within GIMS project we have started with selection of pilot sites along the motorway Razdrto-Vipava where geotechnical monitoring of landslides will be complemented with remote sensing data and geodetic observation on a daily basis.

5. Plan of future activities (up to 30 lines)

In 2019, we will continue with working at the landslides in the hinterland of Koroška Bela aiming to define relation between groundwater level and displacement as well on establishment of monitoring system which will support civil protection agency in case of warnings. We will be working together with the University of Ljubljana, Faculty of Civil and Geodetic Engineering (ULFGG, ICL Member) on the IPL-225 Project “Recognition of potentially hazardous torrential fans using geomorphometric methods and simulating fan formation”, and on the IPL-226 Project “Studying landslide movements from source areas to zone of deposition using a deterministic approach”.

Furthermore, we will continue with the development of national landslide prediction system. The goal is that system for prediction rainfall induced landslides will be implemented on the local level.

In 2019, we will be working on the preparation of the 4<sup>th</sup> Regional Symposium on Landslides in the Adriatic-Balkan Region, which will be held from 23-25<sup>th</sup> of October 2019 in Sarajevo (Bosnia and Hercegovina).

6. Publication (in Landslides, proceedings, meeting reports, or WEB)

- JEMEC AUFLIČ, Mateja, KUMELJ, Špela, PETERNEL, Tina, JEŽ, Jernej. Understanding of landslide risk through learning by doing: case study of Koroška Bela community, Slovenia (2018) Landslides: Journal of the international consortium on landslides, ISSN 1612-510X. [Print ed.], 10 str, Online First, doi: 10.1007/s10346-018-1110-1.
- PETERNEL, Tina, JEŽ, Jernej, MILANIČ, Blaž, MARKELJ, Anže, JEMEC AUFLIČ, Mateja (2018) Engineering-geological conditions of landslides above the settlement of Koroška Bela (NW Slovenia). Geologija, 61, no. 2, str. 177- 189, doi: 10.5474/geologija.2018.012.
- JANŽA, Mitja, SERIANZ, Luka, ŠRAM, Dejan, KLASINC, Matjaž. Hydrogeological investigation of landslides Urbas and Čikla above the settlement of Koroška Bela (NW Slovenia) = Hidrogeološke raziskave plazov Urbas in Čikla nad naseljem Koroška Bela (SZ Slovenija). Geologija, 61, no. 2, str. 191- 203, doi: 10.5474/geologija.2018.013

Note:

Please fill and submit this form by **30 March 2019** to **ICL Network** <[icl-network@iclhq.org](mailto:icl-network@iclhq.org)>

Less than 2 printed pages.

Activities are recommended to submit to the ICL-IPL activities of Landslides: Journal of International Consortium on Landslides.