

## Progress Report of ICL Network

### 1. Title of Network: ICL Adriatic Balkan Network (ICLABN)

### 2. Name of Coordinator (Affiliation and email)

#### Coordinator (2024 - )

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### 3. List of member organizations

1. University of Rijeka, Faculty of Civil Engineering, Rijeka, Croatia
2. University of Zagreb, Faculty of Mining, Geology and Petroleum Engineering, Zagreb, Croatia
3. University of Ljubljana, Faculty of Civil and Geodetic Engineering, Ljubljana, Slovenia
4. University of Belgrade, Faculty Mining and Geology, Belgrade, Serbia
5. Geological Survey of Slovenia, Ljubljana, Slovenia
6. The Geotechnical Society of Bosnia and Herzegovina, Tuzla, Bosnia and Herzegovina
7. University of Ljubljana, Faculty of Natural Sciences and Engineering, Ljubljana, Slovenia
8. The Macedonian Association for Geotechnics, Skopje, North Macedonia

### 9. Progress report of activities (2019-2024)

ICL Adriatic Balkan network was active in the period 2019-2024 in the organization of traditional Regional Symposiums in the Adriatic Balkan Region (ReSyLAB), and in the activities during 5<sup>th</sup> and 6<sup>th</sup> WLF.

The 4th Regional Symposium on Landslides in the Adriatic-Balkan Region (4th ReSyLAB) was held

on 23–25 October 2019 in Sarajevo (Bosnia and Herzegovina), organized by Geotechnical Society of Bosnia and Herzegovina, together with the Federal Institute for Geology of Bosnia and Herzegovina and Republic Geological Survey of the Republic of Srpska (Uljarević et al. 2019a).

The Symposium was attended by 100 participants from 14 countries and 41 scientific and professional papers about landslides mapping, investigation, monitoring and mitigation were presented. All reviewed papers (41) were published in Symposium Proceedings (Uljarević et al. 2019). The Symposium included five invited lectures presented by Norikazu Shimizu (Japan), Charles Wang Wang (Hong Kong), Alessandro Corsini (Italy), Željko Arbanas (Croatia) and Marina Vivoda Prodan (Croatia). The Symposium technical sessions were accompanied with round table discussion and field trips. The round table entitled: “Enhancing cooperation between the landslide scientist and stakeholders from public bodies dealing with policies or decision making” moderated by Professor Snježana Mihalić Arbanas, Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb, Croatia, dealing with the existing experiences in cooperation of landslide scientists and stakeholders at local, regional and state levels in landslide risk reduction. The field trip was organized to landslide in the Memorial complex Tjentište inside the Sutjeska National Park, as well as landslides Bogatići and Čemerno located nearby to the route to the Sutjeska National Park (Uljarević et al. 2019b).

The 5th Regional Symposiums on Landslides in Adriatic-Balkan Region, held in Rijeka, Croatia, in March 2022, entitled “Landslide Modelling & Applications” was organized by Croatian Landslide Group at the Faculty of Civil Engineering University of Rijeka (Arbanas and Mihalić Arbanas, 2023). The Symposium was attended by 85 participants on site and online from 13 countries and presented 46 scientific and professional papers in oral (30) and poster (16) presentations. In total 41 reviewed papers were published in Symposium Proceedings (Peranić et al. 2022). The main Sessions of the Symposium were Landslide Monitoring, Landslide Mapping, Landslide Susceptibility, Laboratory Testing, Physical and Numerical Modelling of Landslides, Landslide Case Studies and Landslide Investigation (Peranić et al. 2022). Five invited lectures were presented within Symposium sessions: Nicola Casagli (Italy); Michel Jaboyedoff (Switzerland), Binod Tiwari (USA), Snježana Mihalić Arbanas (Croatia), Nejc Bezak (Slovenia). The Symposium technical sessions were accompanied by a series of side events: workshop on landslide physical and numerical modelling, photo exhibition, round table discussion and post symposium field trip to the Grohovo Landslide and Brus Landslide. All publications are available at the Symposium web page: <https://5resylab.uniri.hr/>.

The 6<sup>th</sup> Regional Symposium on Landslides in the Adriatic-Balkan Region (ReSyLAB) was held in Belgrade, Serbia, from 15-18 May 2024. Opening ceremony was started with welcome notes from ICL President Prof. Željko Arbanas from University of Rijeka (Croatia) and ICL Vice President for Europe and a Dean of Faculty of Mining and Geology Prof. Biljana Abolmasov (Serbia). The ice break party was organized in Botanical Garden “Jevremovac” on the May 15, 2024, in the evening

hours (University of Belgrade, Faculty for Biology). Parallel scientific sessions continued from May 16 to May 17, 2024. The closing plenary session took place on May 17, 2024 in the afternoon. The field trip was held on May 18, 2024. A total number of 84 participants from 15 countries attended the Symposium. In total 49 reviewed papers were published in Symposium Proceedings (Marjanović and Đurić, 2024). Open access digital copy of Symposium Proceedings in .pdf is available on <https://resylab.rgf.bg.ac.rs>, as well as Book of 64 abstract. The Symposium topics were concentrated on the five themes: Landslide monitoring and early warning, Landslide susceptibility, hazard and risk assessment, Climate change and landslides, Testing, modeling and mitigation of landslides and Landslides in practice – mining and infrastructure. Each conference session was opened by the keynote lecturer. Also, specialized topics within the conference were presented by invited lecturers. The two Workshops were organized during the 6<sup>th</sup> ReSyLAB in Belgrade on May 15, 2024, before official opening. Both workshops were held in-house of the Faculty of Mining and Geology. Round table discussion was organized in May 17, 2024 afternoon and participants were involved in three topics: (i) Landslides in legislation, (ii) Landslides in emergencies and (iii) Landslides and artificial intelligence revolution. Field trip was organized on 18 May 2024 with aims to introduce Symposium participants with Podunavlje Region and Frontiers of the Roman Empire – The Danube Limes in Serbia.

Also, members of ICL ABN were active in organization, chairing sessions and presentations of papers/posters on WLF5 (Kyoto, 2020) and WLF6 (Florence, 2023), as well as ceremony organized for 20<sup>th</sup> Anniversary of ICL in Kyoto 2022. Contributions to KLC2020 were supported by several papers within PLR-T Book series, including all Volumes (Vol 1-Vol 4), as well as scientific papers and research published in the Landslides Journal.

## **10. Plan of future activities**

The most important future activities are concentrating on the organization of the next ReSyLAB Symposium. After discussion during Belgrade Symposium, it was decided to propose Slovenia as a hosting ICL ABN country member in 2026, or North Macedonia in 2027. Slovenian ICL ABN members suggested in September 2024 to deliver organization of 7<sup>th</sup> ReSyLAB to North Macedonia in 2027. Collaboration between ICL ABN members are also available within IPL joined Project IPL-276 “Landslide risk management on the road network in climate changing conditions” (University of Belgrade, Serbia; University of Salerno, Italy; and St. Kiril and Methodius University, North Macedonia). Publishing scientific and review papers of ICL ABN members in PLR-T Book series and Landslides Journal are also planned as a future activity.

## **11. Publication (ICL Journal Landslides, ICL Book Series, etc.)**

Arbanas, Ž., Mihalić Arbanas, S. (2023). 10th Anniversary of ICL Adriatic-Balkan Network and 5th Regional Symposium on Landslides. In: Alcántara-Ayala, I., *et al.* Progress in Landslide Research and Technology, Volume 1 Issue 2, 2022. Progress in Landslide Research and Technology. Springer,

Cham. [https://doi.org/10.1007/978-3-031-18471-0\\_18](https://doi.org/10.1007/978-3-031-18471-0_18)

Marjanović, M. & Đurić, U. (2024). Proceedings of the 6th Regional Symposium on Landslides In the Adriatic-Balkan Region, ReSyLAB2024, Belgrade, Serbia 15-18th May 2024. University of Belgrade, Faculty of Mining and Geology, 328p. ISBN 978-86-7352-402-3. <https://doi.org/10.18485/resylab.2024>

Peranić J, Vivoda Prodan M, Bernat Gazibara S, Krkač M, Mihalić Arbanas S, Arbanas Ž (2022) Landslide modelling and applications. Proceedings of the 5th regional symposium on landslides in Adriatic-Balkan Region. Croatian Landslide Group Zagreb, 257 p. ISBN: 978-953-6953-55-4 <https://5resylab.uniri.hr/>

Uljarević, M., Zekan, S. & Salković, S. (2019). 4th Regional Symposium on Landslides in the Adriatic-Balkan Region–Sarajevo, Bosnia and Herzegovina. *Landslides* **16**, 1821–1822 (2019). <https://doi.org/10.1007/s10346-019-01227-2>

Uljarević, M., Zekan, S., Salković, S., Ibrahimović, D. (2019b). Proceedings of the 4th regional symposium on landslides in Adriatic-Balkan Region. Geotechnical Society of Bosnia and Herzegovina, Sarajevo, 255 p.