

Poročila - Report

6th Regional Scientific Meeting on Quaternary Geology: Seas, Lakes and Rivers, September 2021, Ljubljana

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The 6th Regional Scientific Meeting on Quaternary Geology took place from September 27th through 29th, 2021 in a hybrid form: as a virtual and in-person meeting in Ljubljana, Slovenia. The meeting was primarily intended as an opportunity to bring together researchers working on Quaternary geology, geomorphology, stratigraphy, and related subjects in the Adriatic, Alpine, Dinaric, and Pannonian regions, however, participants more involved in other regions were also welcome. This meeting was the first one hosted by the Slovenian INQUA Committee (SINQUA¹), while the first 5 meetings were organized by the Croatian INQUA Committee. Together with the Croatian and Italian Quaternary communities, including 19 partner institutions and associations from the region, SINQUA organized this meeting with the main theme “Seas, Lakes and Rivers”, which was the focus of the keynote lectures and the virtual excursion. The meeting was attended by about fifty researchers from nine countries.

Full list of organizers: Slovenian INQUA Committee (SINQUA), Croatian INQUA Committee (CRO-INQUA), Geological Survey of Slovenia (GeoZS), Research Centre of the Slovenian Academy of Sciences and Arts (ZRC SAZU), Institute of Archaeology (IzA) & Karst Research Institute (IZRK), Faculty of Natural Sciences and Engineering, University of Ljubljana (UL NTF), CNR - Institute of Geosciences and Earth Resources (IGG), University of Padova (UNIPD), CNR - Institute of Environmental Geology and Geoenvironment, Unit of Milano (IGAG), Institute of Quaternary Paleontology and Geology, Croatian Academy of Sciences and Arts (HAZU), Croatian Geological Survey (HGI), Faculty of Science, University of Zagreb (PMF), Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb (RGNF), Archaeological Museum

of Istria (AMI), Flinders University, Adelaide, Australia (FLIN), Slovenian Geological Society (SGD), Geomorphological Society of Slovenia (GMDS), Italian Association for Quaternary Research (AIQUA), Faculty of Arts, University of Ljubljana (UL FF), and Marine Biology Station Piran (NIB-MBP).

Organizing and Scientific Committee: Petra Jamšek Rupnik – chair (GeoZS), Ana Novak – vice-chair (GeoZS, UL NTF), Maja Andrič (ZRC SAZU, IzA), Miloš Bavec (GeoZS), Dea Brunović (HGI), Nina Caf (ZRC SAZU, IzA), Branko Čermelj (NIB-MBP), Goran Durn (RGNF), Igor Felja (PMF), Alessandro Fontana (UNIPD), Andrej Gaspari (UL FF), Ozren Hasan (HGI), Nikolina Ilijanić (HGI), Katarina Jerbić (FLIN), Ida Koncani Uhač (AMI), Ljerka Marjanac (HAZU), Eva Mencin Gale (GeoZS), Slobodan Miko (HGI), Giovanni Monegato (IGG), Andrej Novak (UL NTF), Roberta Pini (IGAG), Tomislav Popit (UL NTF), Mitja Prelovšek (ZRC SAZU, IZRK), Livio Ronchi (UNIPD), Cesare Ravazzi (IGAG), Andrej Šmuc (UL NTF), Astrid Švara (ZRC SAZU, IZRK), Nadja Zupan Hajna (ZRC SAZU, IZRK), Manja Žebre (GeoZS).

The three-day meeting took place in the Atrium of the Research Centre of the Slovenian Academy of Sciences and Arts and through a virtual platform for remote participants. The meeting was opened by Miloš Bavec, representative of SINQUA, Goran Durn, president of CRO-INQUA, and Giovanni Monegato, president of AIQUA. The first two days were devoted to scientific sessions that included 39 presentations on 1) seas & transitional environments, 2) archeology, earthquakes & structural geology, 3) projects, 4) lakes, forelands & mountains, 5) karst, and 6) aeolian sediments. The keynote lectures included presentations by a) Branko Čermelj (NIB-MBP): The

¹ SINQUA formed in 2014 and has been under the auspices of the Slovenian Geological Society, a member of the International Union for Quaternary Research (INQUA), since 2015. Its mission is to connect Quaternary researchers and share the latest research results with both the Slovenian and international Quaternary research community. The main goal is the progress in the field of Quaternary science in Slovenia. You can find more information on the website of the <https://www.slovenskogeoloskodrustvo.si/index.php/mednarodno-sodelovanje/sodelovanje-v-mednarodnih-organizacijah>.

recent sediments of the Gulf of Trieste, the most northern part of the Adriatic – An overview of the last 5 decades of the biogeochemical and sedimentological research, b) Slobodan Miko (HGI): Submerged landscapes of the Eastern Adriatic Sea, c) Andrej Gaspari (UL FF): Underwater archaeological investigations in Slovenia (the Slovenian sea and Ljubljana moor), d) Nadja Zupan Hajna (IZRK): Sediments of a sinking river in karst over time: Škocjan Caves as a case study, e) Nikolina Ilijanić (HGI): Paleolimnology of Holocene karst lakes along the Eastern Adriatic coast. The second day ended with a geological tour of Ljubljana led by Matevž Novak (GeoZS). On the third day, a virtual excursion took us to Quaternary marine, lacustrine and fluvial sites in Slovenia, Italy and Croatia, presented by Alessandro Fontana (UNIPD), Giovanni Monegato (IGG), Petra Jamšek Rupnik (GeoZS), Andrej Šmuc (UL NTF), Maja Andrič (IzA), Nina Caf (IzA), Katari-na Jerbić (FLIN), Ana Novak (GeoZS, UL NTF) and Livio Ronchi (UNIPD). More information with the full program is available on the meeting's [website](#).

Despite the hybrid format of the meeting, the presentations stimulated lively discussions in a friendly atmosphere. Many new research results were presented and collected in the Book of abstracts, which is available [online](#). In addition, a special issue of *Quaternary - Seas, Lakes and Rivers in the Adriatic, Alpine, Dinaric and Pannonian Regions during the Quaternary* is in preparation for selected papers.



Fig. 1. The meeting venue was in the center of Ljubljana, in the Atrium of the Research Center of the Slovenian Academy of Sciences and Arts (photo: P. Jamšek Rupnik).

The next meeting, the 7th Regional Scientific Meeting on Quaternary Geology, will be organized by the Croatian INQUA Committee in 2024 in Croatia.

Acknowledgements:

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Fig. 2. The hybrid form of the meeting attracted more virtual participants. The virtual excursion on the 3rd day of the meeting was mainly followed online (photo: P. Jamšek Rupnik).

¹ <https://www.geo-zs.si/rmqg/>

² https://www.geo-zs.si/PDF/Monografije/6thRMQG_BookOfAbstracts.pdf

³ https://www.mdpi.com/journal/quaternary/special_issues/6th_RMQG



Fig. 3. Geological tour through the city center of Ljubljana led by Matevž Novak (photo: P. Jamšek Rupnik).



Fig. 4. Some of the presentations were pre-recorded. The virtual excursion stop by A. Šmuc, M. Andrič and N. Caf was presented and recorded at the viewpoint above Lake Bohinj (photo: P. Jamšek Rupnik).

6. svetovni geotermalni kongres WGC 2020+1, Reykjavik (Islandija) marec – oktober, 2021

Dušan RAJVER

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Islandija ni bila slučajno izbrana za organizacijo 6. svetovnega geotermalnega kongresa, saj je prvovrstna predstavnicca izkoriščanja geotermalne energije. Vendar pa so islandski organizatorji zaradi nastopa pandemije Covid-19 morali njegov potek precej spremeniti. Po prvotnem načrtu bi se kongres moral odvijati v Reykjaviku od 27. apr. do 1. maja 2020. Tako pa ga je moral organizacijski komite (OK) zaradi nastopa pandemije časovno in organizacijsko precej spremeniti. Najprej ga je dne 13. marca 2020 predstavil za dobro leto dni naprej (21. do 26. maja 2021). Vseeno pa so že 27. aprila 2020 izvedli začasni uvodni virtualni dogodek, ki je obsegal nagovore predsednika Islandije, predsednika in izvršne direktorice IGA, predsednika tehničnega komiteja ter dve predavanji o proizvodnji elektrike iz geotermalne energije (G. Huttner) in neposredni rabi toplote iz geotermalne energije v svetu (J. Lund). Potem pa je OK ugotovil, da tudi ta termin ne bo izvedljiv. Zato so se 4. feb. 2021 odločili, da kongres izvedejo z nekaj mesečnimi virtualnimi dogodki od marca do oktobra 2021 in ga poimenovali »geotermalni semester«. Otvoritveni 2-urni dogodek je bil 30. marca s sedmimi uvodnimi predavanji. Sledili so virtualni celodnevni dogodki (od I do IV), prvi 13. aprila, drugi 11. in 12. maja, tretji 15. junija in četrti 6. julija. Semester se je zaključil s 3-dnevno konferenco v Reykjaviku (glavni dogo-

dek 25.-27. okt. 2021), ki je potekala hibridno (v živo za tiste, ki so prišli na Islandijo in virtualno za ostale registrirane udeležence). Prejšnji svetovni geotermalni kongresi oziroma mednarodni geotermalni simpoziji od leta 1970 dalje so omejeni v poročilu pred šestimi leti (Rajver, 2015).

V izkoriščanju geotermalne energije je Islandija v svetovnem vrhu glede na prebivalstvo, tako glede neposredne rabe toplote iz geotermalne energije kot tudi proizvodnje elektrike iz nje. Prevladuje neposredna raba, posebej ogrevanje prostorov (44,6 % vse izkoriščene geotermalne energije). Daljinsko ogrevanje Reykjavika z geotermalno energijo (sedaj Reykjavik Energy) je bilo uradno ustanovljeno že leta 1946. Delež geotermalne energije v daljinskem ogrevanju se je zvišal iz 43 % v letu 1970 na sedanjih 90 %. V mestih in vaseh deluje okrog 30 ločenih sistemov geotermalnega daljinskega ogrevanja in dodatno še 200 majhnih sistemov na podeželju. Slednji oskrbujejo z vročo vodo individualne kmetije ali skupine kmetij, kakor tudi poletne kočice, rastlinjake in druge uporabnike. Imajo 165 rekreacijskih plavalnih in balneoloških centrov, med njimi jih 140 uporablja geotermalno toploto. Večina plavalnih bazenov je odprta celo leto. Ogrevanje rastlinjakov je za ogrevanjem prostorov druga najvažnejša raba geotermalne energije. Vroč ali delno ohlajeno vodo uporabljajo še za taljenje