



Newsletter #3

March 2020

Dear Readers,

Coordinator:



ELTE

Partners:



GTK



UMIL



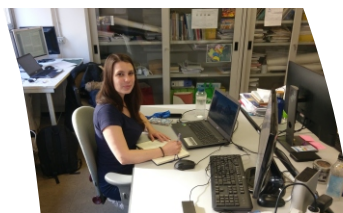
Welcome to the third issue of the ENeRAG newsletter, which aims to provide you up-to-date news on project results and information about the upcoming activities and events.



EXPERT VISITS



STUDENT EXCHANGE



STUDENT COMPETITION



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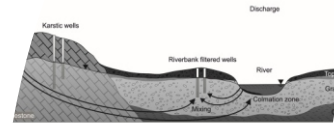
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OPEN ACCESS PUBLICATIONS



TRAINING WORKSHOPS



ORGANISATION OF SESSIONS

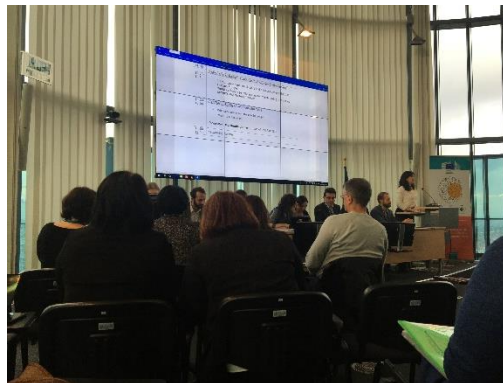


The ENeRAG project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 810980.

Events of the last 6 months

[ENeRAG project participated](#) in the Widening Day event organized by European Commission on 13 November 2019 in Brussels, Belgium.

The ENeRAG project was represented by Ildikó Erhardt, project manager, who had the chance to network and to meet the Project Officer of ENeRAG in person, and discuss project related issues. Furthermore, a possible cooperation was established with GeoTwin project, as the two projects' representatives could exchange knowledge on their experiences on Twinning projects.



The final round of the Problem Solver [Competition](#) for Hungarian students was held at the Eötvös Loránd University on 15 November 2019 in Budapest, Hungary, with the involvement of the project's supporting partners, as jury. All of the teams gave fantastic talks and highlighted the interaction of geofluids with different origins and characters.

In the framework of the International Problem Solver Competition students from China, Egypt, India, Iran, the Netherlands, Nepal, Nigeria, South Korea, Uganda and the USA competed on 14 February 2020. Five teams qualified for the second round, where the teams will deliver a practical problem related to groundwater in the form of a short video. The submission deadline for short movies was 30 April 2020, however, in light of the developing coronavirus outbreak, the deadline was postponed to 1 July 2020.



Events of the last 6 months

[ENeRAG project participants](#) (Ádám Tóth (ELTE), Nina Leppäharju, Sami Vallin, Teppo Arola and Ferenc Molnár (GTK)) attended at the [34th Nordic Geological Winter Meeting](#), that was held on 8–10 January 2020 in Oslo, Norway. ENeRAG supported a geothermal session, that had 10 high quality oral presentations which initiated scientific discussion among the around 60 attendees. The ENeRAG Consortium partners exchanged knowledge related to the publication plan of geothermal energy, and the project's upcoming events.



[Short course on isotope geochemistry](#) of fluid-rock interaction was held at the Eötvös Loránd University between 11–13 February 2020, which was scientifically led by GTK. The course aimed to review the current state of the art in the application of isotope geochemistry for the understanding of processes in hydrothermal systems. The lecturers of the three day long intense course were Hugh O'Brien, Yann Lahaye, Ferenc Molnár (GTK), Holly Stein (Colorado State University), Attila Demény and Zoltán Pécskay (Hungarian Academy of Sciences). Among the participants there were students and professors of the ELTE, and some colleagues arrived from the Karlsruhe Institute of Technology (Germany), University of Szeged (Hungary), UMIL and the GTK as well.

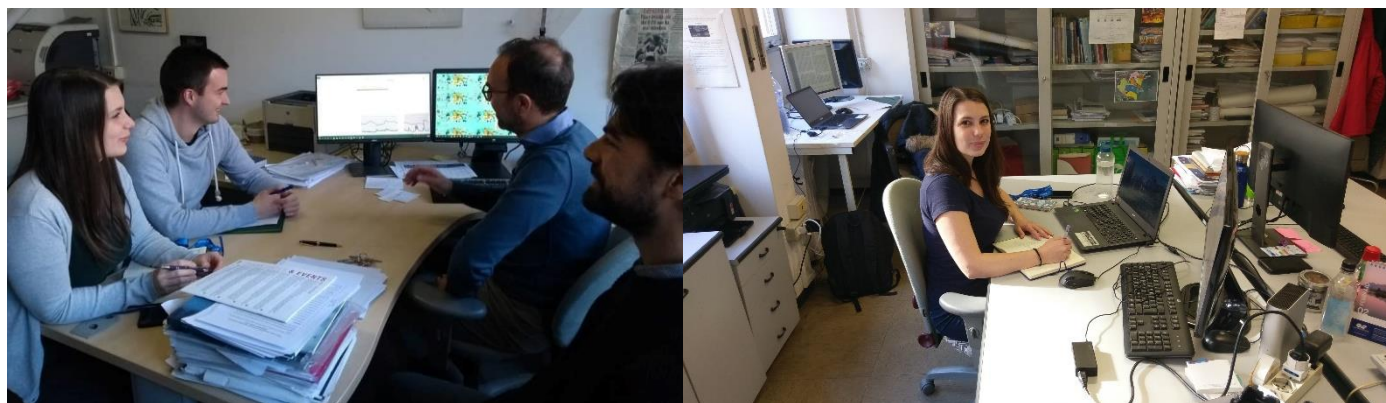


Events of the last 6 months

A third-year PhD student from ELTE, Márk Szijártó started an exchange program at the GTK from February 2020. His study focused on the technique and the method of the low enthalpy energy utilization. During the exchange, Márk joined to the scientific life of COMSOL Modelling Team at GTK, and visited two ATES (Aquifer Thermal Energy Storage) systems and a mixed energetic construction. As the main result of the exchange, both institutes (GTK and ELTE) were able to mutually develop their experiences in numerical modelling.



A second-year PhD student from ELTE, Zsóka Szabó visited UMIL from February 2020, in the frame of ENeRAG student exchange program. The aim of the exchange was to learn the fundamentals of vadose zone modelling. Working on a real case scenario, directly managed by UMIL, the effects of Managed Aquifer Recharge (MAR) through an infiltration basin were studied. Furthermore as part of the participant's PhD research, investigation of possible water supply scenarios in the Duna-Tisza Interfluvium (Hungary) was carried out by numerical modeling. The exchange was able to strengthen the connection between ELTE and UMIL and the participants could share their knowledge both on numerical modeling and groundwater flow systems.



Planned events in the next 6 months*

The ENERAG project co-organizes a session, entitled "Groundwater flow and geofluids system understanding with regard to environmental problems and resource management" on the upcoming EGU2020: Sharing Geoscience Online, 3-8 May 2020, Vienna. 8 ENERAG related abstracts were submitted.



In the framework of exchange programs, a PhD student and a staff member of ELTE will start their work at GTK. The exchange is organised for application of cutting edge modern analytical techniques in research on crustal fluid systems and related geological resources.

Conference attendances

In the framework of augmenting scientific impact in geofluids' research, ENERAG project participants will attend to the following conferences to gain knowledge and disseminate their own research results.

[World Geothermal Congress](#), 27 April – 1 May 2020, Reykjavik, Iceland
(3 ENERAG related abstracts were submitted; postponed to 21-26 May 2021)

[Goldschmidt Conference 2020](#), 21-16 June, Honolulu, Hawaii, USA
(1 ENERAG related abstract was submitted)

[47th IAH Congress 2020](#), 20-25 September, São Paulo, Brazil

[Meeting of Young Geoscientists 2020](#), 27-28 March, Zalakaros, Hungary
(1 ENERAG related abstract was submitted, postponed to September 2020)

Groundwater Conference 2020, 25-26 March, Siófok, Hungary
(1 ENERAG related abstract was submitted, the conference was cancelled)



GTK will organize two short courses, namely 'Knowledge transfer in use of environmental tracers for hydrogeological applications' and 'Knowledge transfer for modelling shallow bedrock energy utilisation'. In the framework of 'Modelling capacity improvement in groundwater energy utilisation' UMIL will organize a short course.

ELTE Team will join to the European Researchers' night event in September 2020 as well to popularize the science in the field of geofluids.



International Symposium on Geofluids

[International Symposium on Geofluids](#) organised by József and Erzsébet Endowed Hydrogeology Chair Foundation was planned to hold in July 2020, Budapest, Hungary. However, considering the developing coronavirus outbreak, the symposium will not materialize at the original scheduled time (8-10 July 2020). We truly believe in rescheduling the event to another date, when all the interested can participate in the planned activities.

The declared objective of the Symposium is to bring together scientists, professionals, stakeholders to share and discuss all kinds of aspects of geofluids, i.e., groundwater, geothermal energy, hydrocarbon, geogenic contaminations and hydrothermal mineral resources, with special emphasis on harmonized exploration and utilization. During the symposium an ENeRAG session will be organized to display the results of the project. As a side event of the conference, ENeRAG Capitalisation Workshop will be held among project participant, in order to develop common research projects and research networks.



INTERNATIONAL SYMPOSIUM ON GEOFLUIDS

Publications in the framework of ENeRAG:

- ✓ Katalin Csondor, Petra Baják, Heinz Surbeck, Bálint Izsák, Ákos Horváth, Márta Vargha & Anita Erőss (2020): [Transient nature of riverbank filtered drinking water supply systems-A new challenge of natural radioactivity assessment. Journal of environmental radioactivity](#)
- ✓ Judit Mádl-Szőnyi (2019): [A regionális pórusnyomás viszonyok jelentősége a termálvizek feltárásában és a készletek megújulásában](#)
- ✓ Tamás Garamhegyi, Ferenc Székely, J. Joel Carrillo-Rivera & Judit Mádl-Szőnyi 2020: [Revision of archive recovery tests using analytical and numerical methods on thermal water wells in sandstone and fractured carbonate aquifers in the vicinity of Budapest, Hungary](#)

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** Due to the evolving novel coronavirus outbreak, the execution and/or timing of the planned events could change, or will be cancelled.*

