

Eötvös Loránd Tudományegyetem

Post- Event Summary Report

Name of the Event: Goldschmidt2021 Virtual Conference

Date of the Event: 2021.07.04 – 2021.07.09

Location of the Event: France – Lyon (online)

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Topic: Report of activities for “Talent Support Council of ELTE Eötvös Loránd University, Budapest”.

Objective: Describe the activity carried out in the event “Goldschmidt2021 Virtual Conference “.

Conference Summary

Goldschmidt is the foremost annual, international conference on geochemistry and related subjects, organized by the European Association of Geochemistry and the Geochemical Society.

The Goldschmidt 2021 conference brings together geoscientists worldwide to one meeting covering all disciplines of the Earth, planetary, and space sciences. The Goldschmidt aims to provide a forum where scientists, especially early career researchers, can present their work and discuss their ideas with experts in all fields of geoscience.

All scientific sessions were in an online format on Zoom. From 5 to 9 July, the online sessions were 2h30 in the morning European time (09:00-11:30 CET) to accommodate presenters based in Asia, Oceania, Africa and Europe, and 2h30 in the afternoon European time (16:30-19:00 CET) to accommodate presenters based in North, South, Central America, Africa and Europe.

The session “theme 12: Environmental Geochemistry and Human Health” is the general session where my presentation was presented. The topics are geochemistry of air, soils, surface water and groundwater mediates exposures to many metals and metalloids that affect human health. Exposures to such elements can be exacerbated by anthropogenic perturbations such as mining, agriculture, land development and manufacturing. Many adverse health effects such as cancer, neurotoxicity, metabolic disruption, endocrine effects and immunotoxicity have been linked to exposures of trace metals and metalloids such as arsenic, cadmium and lead, radionuclides, and organic pollutants. Conversely, deficiencies of elements such as iodine, selenium and zinc in soils can lead to a variety of health problems and increased morbidity. The diverse array of interactions between humans and the geochemical environment are particularly pertinent to the health of communities where an intimate relationship with the land has endured, and are accentuated by external factors such as population growth, climate change and our growing exploitation of geochemical resources. This is especially the case in low- and middle- income countries, which tend to be heavily invested in primary industry sectors, where untreated groundwater may be used for drinking and where subsistence crops often form a large part of the diet. This theme will focus on the geochemical processes and parameters that underpin human health, covering aspects such as causation, behavior, impact and mitigation. Topics could include, but will not be limited to: contaminant emissions from anthropogenic and geogenic sources; contaminant fate and transport within the environment; human exposure and health effects; monitoring, measurement and modelling; remediation and intervention.

The sub session “12g - Isotope geochemistry for environmental health assessment and remediation” was focused in topics for evaluation and protection of environmental health, which are essential for the well-being of both people and the environment. Increasing population, changes in land use, and climate change are impacting both environmental health and directly the quality of fresh water available for human consumption and agriculture. Anthropogenic and geogenic contaminants introduced in the environment may be transported over long distances and undergo complex pathways, resulting in human exposures far removed in time and place from the contaminant emission sources. Identifying the sources of air, water and soil contamination is essential to provide viable solutions that will reduce the impact of polluting sources on environmental health. A better characterization of the pollutant behavior involves pollutant-specific measurements along with knowledge of the fundamental geochemical interactions controlling pollutant transport and transformations (e.g., adsorption or reduction at the mineral-water interface; biotic degradation). This session invites contributions dealing with environmental health assessment and remediation, development and application of novel and improved measurements and models of chemical and isotope tracers for air, water and soil pollutants in a wide variety of settings. Combinations of multi-tracer studies with quantitative reactive transport models are of particular interest though all relevant contributions to this session topic are welcome.

My presentation was a 3 minutes for a live flash talk presentation, consisting of a 2 minutes talk followed by 1 minute for questions and answers. The presentation took place in session “12gO2: Isotope geochemistry for environmental health assessment and remediation”. It took place on Tuesday, 6 July 2021 at 9:23 AM CEST and the research topic was “Analyses of heavy metals in attic dust of a former industrial city (Ózd, Hungary) ”. The study is part of a project of the LRG (Lithosphere Fluid Research Lab).

The LRG members hope that the presentation of my project at the event “Goldschmidt2021 Virtual Conference” could contribute to the formation of environmental consciousness and new knowledge to the scientific community and establish new contacts for future research collaboration.

For more information about the conference:

<https://2021.goldschmidt.info/goldschmidt/2021/meetingapp.cgi>

Scientific program presentation:

<https://2021.goldschmidt.info/goldschmidt/2021/meetingapp.cgi/Session/2528>

Link and abstract presentation:

<https://2021.goldschmidt.info/goldschmidt/2021/meetingapp.cgi/Paper/7972>



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