

Final Report

Name of BritInn Fellow: Dr. Gabriella Koltai

Home Department: Institute of Geology

Home University: University of Innsbruck

Guest Department: Department of Earth Sciences

Guest University: Durham University

From: 11/09/2022

Until: 16/09/2022

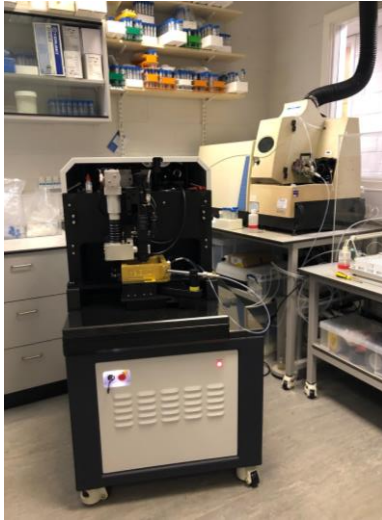
Title of the Research Project: Assessing the role of explosive volcanism on regional climate by using secondary cave carbonates

Report about visit and future plans:

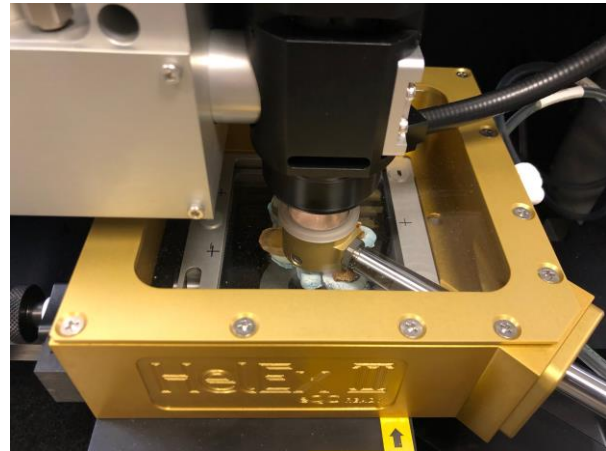
My stay at Durham University was a great experience. I applied for this fellowship with the aim of running high-resolution trace element analyses on speleothems using the facility lead by Prof. Baldini. During the research stay, I spent five days in the laboratory working on cave deposits. We analysed a stalagmite from an Austrian cave that was deposited during the last deglaciation, a very interesting period characterized by large climate swings. We were interested in whether this stalagmite retains a volcanic signal related to the Laacher See volcanic eruption. Furthermore, we performed high-resolution trace element analyses of cave deposits, cryogenic cave carbonates to gain further insight into their formation mechanisms.

I gave a public lecture about my ongoing research on cryogenic cave carbonates that was followed by inspiring discussions with other members of the faculty which may lead to future collaborations. We will present these results at a conference (EGU 2023) and continue this research collaboration.

Prof. Baldini was extremely helpful and supportive; I had a very inspiring time at the University of Durham. I appreciate the financial support provided by the BritInn, the Faculty of Geo and Atmospheric Sciences, and the Research Center Geodynamics and Geomaterials.



The Arthur Holmes Trace Element Laboratory Durham University.



A tiny but very important calcite crystal being ablated by a laser.



Durham Cathedral, a truly impressive UNESCO World Heritage Site.



My everyday walk to the university. What a view!