

Postdoc position on speleothem seismic vulnerability from FEM modeling (2 years)

The research will be carried out in the framework of the project “Enhancing paleoseismological record through multi-methods cave deformation analysis tested in diverse Hellenides tectonic regimes” (project 2023/50/E/ST10/00432), financed through SONATA BIS from the Polish National Research Center (<https://www.ncn.gov.pl/>) under the management of Associate Professor Jacek Szczygieł. The project aims to advance the scientific knowledge on speleothems' vulnerability as earthquake environmental effects and its usage in paleoseismology and potential seismic hazard assessment.

At the Institute of the Earth Sciences University of Silesia in Katowice, we seek a postdoc with knowledge and experience related to FEM to:

1. coordinate and obtain input data for the FEM analysis and perform FEM modeling of speleothems;
2. compare the results with previous studies and consequently also prepare the publication.

Background knowledge in seismology is desired but not essential. You will be working at the Institute of the Earth Sciences, University of Silesia, but 2-3 field trips to Greek (easily accessible) caves are planned to collect lidar data and speleothems samples. The successful postdoc will work directly with Jacek Szczygieł, and a PhD student at the University of Silesia, as well as the research team from Greece and Austria. There is a possibility of partial remote work up to a predetermined limit. You are expected to publish your results in peer-reviewed academic journals.

Requirements:

As the ideal candidate, you have:

- Ph.D. in geology, geophysics, earth sciences, physics, engineering, or related fields.
- Preferred experience in FEM modeling or documented experience in applying advanced mathematical solutions to earth science or engineering research.
- Very good communication skills in written and spoken English

Other desired skills:

- Working with lidar point cloud data;
- Knowledge on seismology;
- Mountaineering or caving skills are plus but not essential
- An open, critical, and interdisciplinary mindset.

Terms of employment and application process:

<https://skk.erecruiter.pl/Offer.aspx?oid=4411112&cfg=0596d66a80b044cea9e98c4a71799d37&fromSkk=1734012785234&ejold=386436&ejorld=164141&comId=20067605>

Deadline for applications: 14th of January 2025 (11.59 p.m. CET)

For informal questions, please contact Jacek Szczygieł jacek.szczygiel@us.edu.pl.