

1st Summer School on Speleothem Science

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Speleothems provide highly resolved and precisely datable paleoenvironmental proxy records with a wide geographic distribution that can capture a range of climatic regimes and their variability over various timescales. Established methods for the analysis of speleothems are constantly being improved, while new methods and proxies are being developed to take full advantage of this unique archive. Henderson (2006) stated: "for paleoclimate, the past two decades have been the age of the ice core. The next two may be the age of the speleothem." And indeed recent years have

of its kind, S⁴ was organized by a team of PhD students and gathered 46 students from 22 countries.

Over 20 experts gave lectures covering every stage of investigation and analysis of cave environments and speleothems. S⁴ students were led through the entire process from the first stages of site identification, monitoring, sample characterization and selection, through to complex analytical and statistical data handling. A field trip to Herbstlabyrinth cave system provided an example of ongoing

most appropriate. Presentations of commonly used methods provided a platform for discussions regarding known difficulties and how to handle unexpected results. Many experts were on-site for the entire week and actively participated in these discussions providing a wealth of information and troubleshooting strategies.

As with most summer schools and conferences, S⁴ provided attendees with the valuable opportunity to build networks and make new academic contacts. Lively discussions during the shared lunches and coffee breaks showed that expert participation extended far beyond the classroom lectures. The organizing committee was overwhelmed by the positive feedback which has been received from the participants and experts, and as a result the next S⁴ is planned for 2016. It will be organized by a "fresh" team of PhD students. We are hopeful that this will establish a tradition of international collaboration and knowledge sharing between young scientists in the speleothem field.

For more detailed information please visit: www.speleothem2013.uni-hd.de

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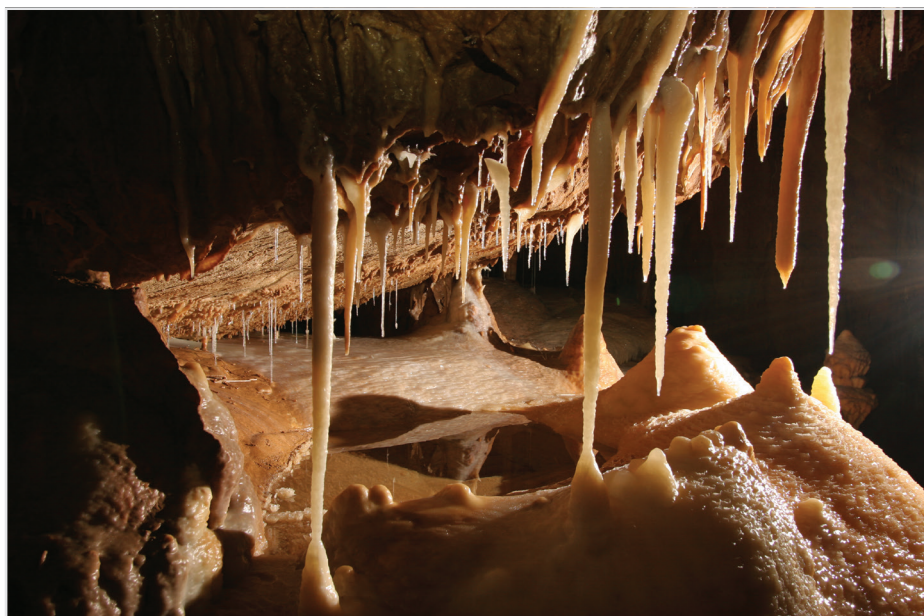


Figure 1: Finding a suitable stalagmite for paleoclimate studies is still one of the most challenging parts of speleothem science. The picture is showing a cave chamber of the Herbstlabyrinth, Germany, which was visited during the S⁴ field trip. Photo by Simon Mischel.

witnessed an exponential increase in speleothem based climate studies. While speleothem science has developed into an advanced branch of paleoclimate research, no organized training program for young scientists in the field had been developed. Filling this gap was the inspiration behind organizing this workshop, the "1st Summer School on Speleothem Science (S⁴)".

The aim of S⁴ was to bring students and young scientists together from across the globe and provide them with the opportunity to explore in-depth traditional speleothem science methods and receive an introduction to some of the newer developments in the field from established experts. The first summer school

monitoring methods, while hands-on activities including workshops on petrographic analysis, specialized age-modeling software, and statistical analysis gave students the chance to work with real data from their own sites. The evening program of poster sessions and discussion allowed for 36 student projects to receive feedback and advice from peers and experts.

As in many other branches of science, not all researchers and students have analysis facilities at their home institution. Lectures detailing the basics of sensitive analytical procedures and how they apply specifically to speleothems gave many students an excellent overview of the available methods, limitations, costs, locations of labs, and when specific methods are