



Dated Speleothems: archives of paleoclimate (DAPHNE)

A. Mangini for the DAPHNE team

Heidelberger Akademie der Wissenschaften, Im Neuenheimer Feld 229, 69120 Heidelberg,
Germany

In summer 2005 the Deutsche Forschungsgemeinschaft (DFG) approved funding for the Forschergruppe (FG) 668 (DAPHNE). In this interdisciplinary research group several researchers and scientists from Heidelberg, Bochum, Innsbruck and Trento are working together to study speleothems over a period of six years. The intention of DAPHNE is to better understand the basic mechanisms which control speleothem growth and composition using a combined application of field and laboratory experiments. In particular, the impact of kinetic fractionation processes on the oxygen isotope signals recorded in speleothems will be quantified. The knowledge of these basic mechanisms will allow for the first time to obtain high-resolution information about the intensity of past precipitation and temperature from stalagmites. Hereby, speleothems will advance to a precisely dated continental archive providing quantitative climate information. By the application to Late Quaternary speleothems we will reconstruct the temporal and spatial variability of precipitation and temperature on a supra-regional scale. These data will represent an important basis for prognostic climate modeling. (www.FG-DAPHNE.de).