

## **Absolute dated Greenland Interstadials recorded in stalagmite from southern Turkey**

MEHMET ORUÇ BAYKARA<sup>1,2\*</sup>, HORNG-SHENG MII<sup>3</sup>, CHUN YUAN HUANG<sup>2</sup>, CHUNG-CHE WU<sup>2</sup>,  
CHUAN-CHOU SHEN<sup>2</sup>

<sup>1</sup> Pamukkale University, Department of Geological Engineering, TR-20070 Denizli, Turkey  
(\*correspondance: obaykara@pau.edu.tr)

<sup>2</sup> High-precision Mass Spectrometry and Environment Change Laboratory (HISPEC), Department of Geosciences, National Taiwan University, Taipei 10617, Taiwan  
(river@ntu.edu.tw)

<sup>3</sup> Department of Earth Sciences, National Taiwan Normal University, Taipei, Taiwan

The Eastern Mediterranean has been cradle of the many civilizations and hydrological changes during the time caused serious problems for these cultures. Previous studies have proved that the reduced precipitation during the Holocene caused serious problems for ancient civilizations. Anatolia has a significant role for the Eastern Mediterranean paleoclimate researches. It is situated at the crossroads of three continents and linkage area between North Atlantic-Alpine-Mediterranean cyclones and Arabian-Indian-Tibet monsoon climate models. Specifying the paleoclimate changes and their geographical extent of the past periods is important for understanding climate dynamics and the impacts on human societies in eastern Mediterranean region.

The Dim 1 Stalagmite sample that has been sampled from Dim Cave (Southern Turkey) gives valuable information from the last interglacial. Dim cave is located in the Alanya district of Antalya Province on the southern coast of Turkey and was formed in early Triassic recrystallized limestone of the Yumrudağ Nappes which is the structurally highest of the Alanya Nappes.

Abrupt variations have seen during the last glacial period which is called Greenland interstadials (GI). Spatial extend of the GI is well presented, but studies are very limited about the precise timing and unambiguous evidence for the climatic effects of GI in the eastern Mediterranean. We present a ~70 kyr-long stalagmite with a set of 17 <sup>230</sup>Th dates with very small errors and there is a gap during MIS 4 and part of MIS 2.  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$  isotope profiles of Dim-1 stalagmite allow us to define precise dates to Greenland Interstadials (GI) 1,8-17,21-2