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PREDAVANJE

Dr. David Domínguez Villar

“Past climate recorded in caves from the Balkans: Scientific experience from an outsider”.

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u predavaonici Geološko-paleontološkog zavoda
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U NASTAVKU ABSTRACT I KRATKI ŽIVOTOPIS AUTORA

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Abstract: The seminar will focus on the speleothem science, the scientific discipline that obtains paleoclimate information from stalagmites and other speleothems. This is a relatively young discipline with a huge projection in the last decade and a promising future. The reputation of this scientific community has turned speleothems as a leading paleoclimate archive at millennial timescales of the Quaternary, competing with ocean core records and polar ice-core records, and outstanding from any other paleoclimate archive. In order to better understand speleothem records, scientists interested in speleothems are studying caves and karst dynamics with unprecedented detail, pushing forward also other related disciplines involving karst processes. The seminar will give a brief summary on the history and main achievements of this discipline. The problems for scientists in the region to enrol this kind of research will also be highlighted, as well as the risk of cave heritage destruction in the region. Different research groups are currently working in the Balkans, and the talk will give a summary of the research done by the speaker group in Postojna Cave during the last 5 years. How temperature is being transferred to the cave will be described, answering the question “Is global warming affecting cave temperatures?”. The cave dynamics behind temperature changes might be very important to understand speleothem records and cave heritage preservation. The seminar will conclude with some highlights on the ongoing research on speleothem records from Postojna covering the full Holocene in the region.

About the speaker: David Domínguez-Villar is currently a Postdoc fellow at the Spanish Research Centre for the Human Evolution in Burgos, Spain. After graduating in Geology at the University Complutense of Madrid, he commenced his research career as geomorphologist, although soon after started a PhD in speleothem science in 2002. He finished his PhD at University Complutense of Madrid in 2007. Since then he has worked and completed his training in this discipline with the best research groups in USA and later in UK with a 2-year Marie Curie Postdoc fellowship. Currently is one of the young leaders of this discipline in Europe and has dynamic connections with scientists in US, UK, China, Australia, Slovenia and Croatia. He has worked in several caves in Spain, UK, France and since 2009 works in Postojna Cave where a wide cave monitoring and speleothem research is being conducted. He has a strong geochronological background and in the last years is pushing the frontiers of knowledge in the fields of cave temperature and oxygen isotope interpretations in speleothem records. He is author of several book chapters and over 20 JCR papers, some of them in leading journals such as *Geology*, *Scientific Reports* (Nature Publishing Group), *Earth and Planetary Science Letters*, *Geochimica et Cosmochimica Acta* or *Climate Dynamics*. The speaker is responsible for some key paleoclimate records in the western Mediterranean region covering the Holocene and the Late Pleistocene based in speleothems, but also works with other archives such as tufas, or paleoglacier records. In the last years he has conducted some research in Croatia regarding paleoglaciers and has started some minor experiments involving tufas and caves.

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