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**ABSTRACTS**



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## **Progress and constraints in speleothem-based palaeoenvironmental research in Croatian Dinaric karst within the REQUENCRIM project**

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Quaternary environmental changes in Croatia have been subject of an interdisciplinary study with multi-proxy approach, with speleothems being an important archive when it comes to the Upper Pleistocene – Holocene transition. Monitoring of modern environmental settings in three caves (Nova Grgosova, Lokvarka and Modrič) and seven speleothem samples from different parts of Croatia deciphered variable atmospheric influences and specific hydrological behaviour of each drip site (Surić et al., 2017). They both lead to particular isotopic imprint in spelean calcite which is, in case of equilibrium conditions, crucial for the reconstruction of the past natural settings.

Progress in speleothem-based palaeoenvironmental studies in Croatia is particularly apparent in extended periods covered by speleothem growth, so at the moment, the oldest record is from Modrič Cave starting from MIS 10 and covering several intervals to the Recent. Another advancement is expected from the Nova Grgosova Cave speleothems which cover only the Holocene, but the quality of the isotopic records provides rather detailed insight into environmental changes in the recent past. On the other hand, constraints are tied to the isotopic disequilibrium during the speleothem growth and to the content of U and Th – either to the low U or to the high initial <sup>232</sup>Th. Although the later was evident in speleothems from Lokvarka Cave, the intention is to date the major events by <sup>14</sup>C method.

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### References:

Surić, M., Lončarić, R., Bočić, N., Lončar, N., Buzjak, N. (2017): Monitoring of selected caves as a prerequisite for the speleothem-based reconstruction of the Quaternary environment in Croatia. *Quaternary International*, <https://doi.org/10.1016/j.quaint.2017.06.042>