



## **Nitrate isotope anomaly as tracer of biogeochemical nitrogen cycling**

Laura Campisi and Jan Kaiser

University of East Anglia, School of Environmental Sciences, Norwich, United Kingdom (l.campisi@uea.ac.uk,  
+44-(0)1603-591327)

In order to investigate the potential of the oxygen isotope anomaly of nitrate ( $\Delta^{17}\text{O}$ ) as tracer of past biogeochemical nitrogen cycling, we analysed a set of nitrate minerals from Chile. We measured the variability within the same specimen and among samples from various regions and with different mineralogical associations.

We also investigated whether the crystallization process can generate an oxygen isotope anomaly. To do so, we compared the anomaly in the Chilean nitrate minerals that likely formed at different stages of evaporation and also in a set of nitrate minerals from systems where the contribution of atmospheric nitrate can be regarded as minimal. Specifically, the possibility that bacteria and/or copper salts generate an anomaly will be discussed.