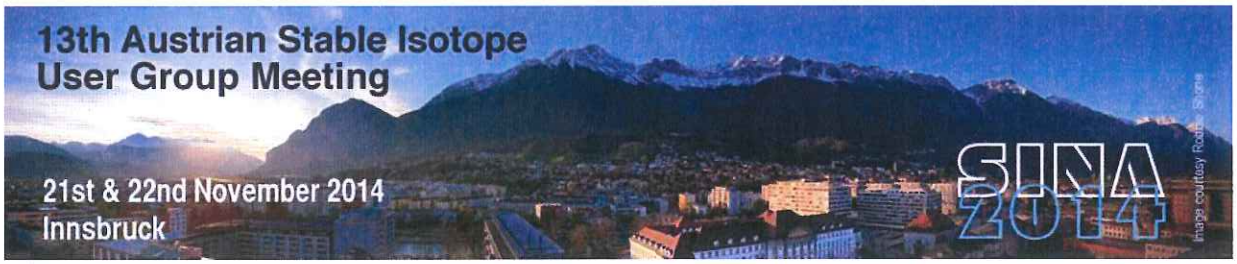

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BOOK OF ABSTRACTS

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Marine C- and S-cycle perturbations at the Triassic-Jurassic boundary and in the Early Jurassic

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Marine sediments accumulate records of the isotopic composition of the ocean. Their carbonate $\delta^{13}C_{carb}$ and organic matter $\delta^{13}C_{org}$ can give information as about changes in the ocean circulation and bioproduction, while marine $\delta^{34}S$ is mainly influenced by ocean circulation and the marine sulfur concentration.

We are currently investigating $\delta^{13}C$ and $\delta^{34}S$ isotopes of two sections spanning the late Triassic to Early Jurassic. This interval contains the Triassic-Jurassic boundary (TJB; 201,3 Ma), one of the five largest extinction events in Earth's history. Our study aims to complement the scarce sulfur isotope data on the TJB and Early Jurassic and to offer insight into observed carbon and sulfur cycle perturbations during this period.

The Arroyo Malo section is located in the Neuquén Basin (central-western Argentina), deposited on the Western margin of Pangea, belonging to the Panthalassa Ocean. The Canj section lies in the Montenegrin Budva Zone, deposited in the Tethys Ocean. While a concomitant negative $\delta^{13}C_{carb}$ and $\delta^{13}C_{org}$ excursion at the TJB has been documented in multiple sections, the continuation of the curve into the early Jurassic has been investigated only by few research groups. They report positive $\delta^{13}C_{org}$ (but no systematic C_{carb}) excursions in the Hettangian stage of the Jurassic but a satisfying correlation has not been achieved globally, yet. As for sulfur, so far only Williford et al. 2009 report data from the latest Triassic to the Early Jurassic. They present concordant positive excursions of C- and S- isotopes, which they interpret as global anoxic conditions with a strongly reduced marine sulfur reservoir.

Our study of the Canj section will significantly extend the existing $\delta^{13}C$ record. The S-isotope investigation of the sections will add a new dataset to compare to the Williford data. Due to the different paleogeographic locations of this study's sections, the resulting $\delta^{34}S$ and $\delta^{13}C$ curves will give important clues on the global correlativity of Early Jurassic S-curves and on the primary or diagenetic origin of the signals.

We thus contribute two detailed datasets from different paleogeographic settings to improve the scarce sulfur data around the TJB and Early Jurassic and add new insight into the complex matter of reconstructing the paleo-ecological aftermath of the TJB in the long-run.