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Oral presentation:

## **Lake Suigetsu SG06 Sediment Core: Project Outline, Some Early (but Significant) Results and Near Future Perspectives**

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Lake Suigetsu has been known by the Quaternary community for more than a decade, for its annually laminated sediment. The first scientific drilling of the lake was conducted in 1993, and the sediment core (SG93) was intensively studied for past atmospheric radiocarbon concentration ([Kitagawa and van der Plicht 1998, 2000](#)) and past climate changes ([Nakagawa et al. 2003, 2005, 2006](#)).

Although the scientific potential of the sediment was obvious for everyone, studies on the SG93 core became discontinuous in the early 2000s, mainly because the core had been recovered from a single bore-hole, and therefore contained unknown core gaps. This was a crucial limiting factor for high precision, independent chronology of the core.

A new scientific coring was conducted in summer 2006, in an attempt to overcome the weak point of the previous core, and exploit the full scientific potential of the sediment. A 73.19 m long sediment core (SG06) was recovered from four bore-holes, without allowing any stratigraphic gaps throughout the sequence. Four major analytical studies (as well as other pilot studies) are ongoing using this new core:

- radiocarbon dating (Oxford Radiocarbon Accelerator Unit and NERC Radiocarbon Facility – Environment, East Kilbride, aiming at  $n = 600$ );
- varve counting (by XRF scanning at Aberystwyth University, and thin section analyses at the GeoForschungsZentrum, Potsdam);
- $^{10}\text{Be}$  analysis (University of Tokyo,  $n \approx 400$ ); and
- pollen analysis (University of Newcastle-upon-Tyne and Freie Universität, Berlin, aiming at  $n = 1000$ ).

Some early results of the project, as well as the future perspectives and potential benefits for the Quaternary community, will be presented. Particular emphasis will be put on the radiocarbon age model, tephrostratigraphy, climatic template of the past 150,000 years, and centennial to millennial scale climate changes through the last deglaciation period.

## References:

- [Kitagawa H and van der Plicht J \(1998\)](#) *Science* **279**, 1187-1190.
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