1. Title
Quantitative Palaeo-Environmental Proxies in Paleosols

2. Type
Commission Symposium: Comm. 1.6-Paleopedology

3. Organizer(s) & Convener

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4. Rationale
Palaeopedological work used to be based mainly on interpreting paleosols in terms of palaeo-environmental conditions during their formation by comparing them to modern analogues and their environments. In addition to this important established approach, particularly in the past two decades, the number of attempts to identify quantitative proxies in paleosols has increased, and several promising approaches have been developed.

5. Objectives
The objective of this session is to present a variety of quantitative approaches to obtain palaeo-environmental information from paleosols, to stimulate a critical and constructive discussion and encourage future quantitative work in palaeopedology.

6. Description
We call for papers of all kinds of (semi-)quantitative palaeo-environmental and palaeoclimatic proxies in paleosols, including major, trace and rare earth element ratios, (geo-)chemical indices, analyses of iron-manganese nodules and pedogenic carbonates, stable isotopes of carbonates and other soil components, as well as biochemical markers such as alkanes, sugars and lipids, and biomarkers like phytoliths, pollen, vegetal and faunal macro- and micro-fossils. We welcome also contributions pointing to problems that we have to deal with in applying these quantitative approaches, such as diagenetic processes after paleosol burial, decomposition of soil organic compounds, and ambiguity of chemical indices for palaeo-climatic reconstructions (since they are also used for quantifying progressive soil development in soil chronosequences).