1. **Title**
Quantitative Palaeo-Environmental Proxies in Paleosols

2. **Type**
Commission Symposium: Comm. 1.6-Paleopedology

3. **Organizer(s) & Convener**

Dr. Peter Kühn  
Institute of Geography, Eberhard Karls University Tübingen, Rüme-linstr. 19-23, 72070 Tübingen, Germany  
E-mail: peter.kuehn@uni-tuebingen.de

* **Convener**

Dr. H. Curtis Monger  
Dept. of Plant and Environmental Sciences, New Mexico State University, MSC 3Q, Las Cruces, NM 88003-8003, USA

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).