1. Title
Advances in techniques to investigate chemical, physical and biological interfaces in soil

2. Type
Commission Symposium: Commission 2.5-Soil chemical, physical and biological interfacial reactions

3. Organizer(s) & Convener

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4. Rationale
Soil is a comple multiphase system. The biological, biochemical, chemical and physical activity of soil are strongly influenced by this multiplicity. However, until recently most analytical techniques required the separation of phases thereby losing much information on interactions and spatial heterogeneity.

5. Objectives
The aim of this session is to bring up-to-date information on the most recent advances in analytical techniques for the study of soil and soil interfaces to a wide audience. Detection limits and spatial resolution are improving, artefacts can be avoided by sample preparation and data treatment.
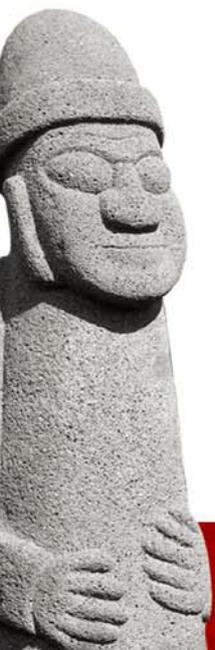
6. Description

Techniques developed in other disciplones and new advances in analytical technique already used in soil science open up new perspectives and allow new questions to be answered.   This symposium invites studies of soils using techniques such as atomic force microscopy, X-ray microscopy, nanoSIMS and other mass spectrometry techniques, infrared spectroscopies, tomography, X-ray absorption techniques and isotopic tracers. The symposium strongly encourages studies of the microbial diversity and function of soils using the fast evolving fields of molecular biology and proteomics.