**Session Proposal**

# Session Title

Advances in Numerical Soil Classification

# Session Organizers

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# Session Description

The evolving needs of global soil information systems demand a shift toward harmonized, quantitative classification frameworks. This session focuses on recent innovations in numerical soil classification, with a spotlight on the Comprehensive Soil Classification System, a dynamic, data-driven approach to unifying existing global, regional, and national taxonomies. By integrating soil classes from multiple systems (e.g., WRB, Soil Taxonomy, Australian Soil Classification, and others), CSCS offers a harmonized, scalable platform for identifying unknown soils using the collective vocabulary of global pedology.

The scope of this session includes theoretical foundations, methodological innovations, and applied case studies in numerical soil classification. It welcomes contributions that explore machine learning, multivariate statistics, digital soil mapping, or harmonization of soil databases. Of particular interest are studies demonstrating the interoperability of national and global systems, as well as approaches for expanding CSCS with underrepresented taxa.

This session provides a platform for researchers, data scientists, and practitioners to engage with the future of soil classification, moving toward systems that are dynamic, transparent, and inclusive. Ultimately, a comprehensive soil classification will support better global soil governance by linking classification to data-driven soil management, climate policy, and sustainable land use planning.

# Format

Oral presentations, and posters

# Proposed Speakers

Prof. Alex. McBratney, leading expert in pedometrics, numerical soil classification. Email: alex.mcbratney@sydney.edu.au

Professor Erika Michéli DSc, expert in pedology and soil classification, Email: micheli.erika@uni-mate.hu