**Session Proposal**

# Session Title

Advancing Soil Organic Carbon Science for Sustainable Land Management

# Session Organizers

Zhongkui Luo, Zhejiang University, luozk@zju.edu.cn, primary contact person

Budiman Minansy, University of Sydney, budiman.minasny@sydney.edu.au

Zhou Shi, Zhejiang University, shizhou@zju.edu.cn

Qiangyi Yu, Chinese Academy of Agricultural Sciences, yuqiangyi@caas.cn

Songchao Chen, Zhejiang University, chensongchao@zju.edu.cn

# Session Description

Preserving and enhancing soil organic carbon (SOC) is crucial for sustaining agricultural productivity, improving soil health, and addressing global environmental challenges. This session will explore advancements in SOC measurement, mapping, and modeling across multiple scales, with a focus on understanding SOC dynamics in response to climate change, land use changes, and management practices. We invite contributions that integrate innovative approaches—such as digital soil mapping, machine learning, process-based modeling, and remote/proximal sensing—to enhance SOC assessment and forecasting. Additionally, we welcome research on novel strategies for SOC sequestration and resilience, with implications for ecosystem sustainability and climate change mitigation. By bringing together diverse perspectives, this session aims to advance SOC science and support the development of informed soil management and policy decisions in the context of global change.

# Format

Oral and poster presentations

# Proposed Speakers

Budiman Minansy, University of Sydney, a leading expert in the field of soil carbon mapping and modelling.

Zhou Shi, Zhejiang University, a leading expert in the field of digital soil mapping and proximal soil sensing.

Zhongkui Luo, Zhejiang University, a leading expert in the field of soil carbon modelling.