**Session Proposal**

# Session Title

Soil erosion and conservation

# Session Organizers

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# Session Description

Soil erosion is a serious global environmental problem that leads to soil degradation and threating food security and ecological security. The session will provide a wide scope for critical discussion about soil erosion processes and mechanisms, soil erosion monitoring and predicting, soil erosion and regional development, response of soil erosion to environmental change, new measures and technologies of soil resources conservation. The session will provide a networking opportunity for international/domestic/early-career, and senior soil scientists. Researches relevant to the key physical processes, influencing factors, and dynamic mechanism of different erosion types (water erosion, wind erosion, gravity erosion, freeze-thaw erosion, tillage erosion), soil erosion modeling, effects of natural and anthropogenic changes on soil erosion and coping strategies, and the issues involved in designing and implementing soil conservation program (e.g., constitutions, education and extension, and governance) will be welcome and shared extensively between experts and those interested in this field.

# Relevance

This session is highly relevant to the congress’ s theme of “Soil and the Shared Future for Mankind” as soil erosion is considered an important reason that causes soil degradation, which severely threat soil health and limit the sustainability and productivity of agriculture. Due to soil erosion, a lot of soil resources have been degraded. So that, soil has become more barren and the soil layer has become thinner, a large area of land has been cut into fragments, and the cultivated land area has been shrinking. Therefore, revealing the mechanism of soil degradation from the perspective of soil erosion and ultimately realize soil conservation is a key challenge in soil science.

# Format

Oral presentations, panel discussions, workshops

# Proposed Speakers

Liu Baoyuan, Beijing Normal University, he is a leading expert in soil erosion in China. He has developed the Chinese Soil Loss Equation (CSLE) model, which accurately predicts soil erosion in China. His research helps guide conservation practices and land management, protecting the environment and promoting sustainable agriculture.)

Zheng Fengli, Northwest A&F University, Institute of Soil and Water Conservation, Chinese Academy of Science and Ministry of Water Resources, China, she is a leading expert in soil erosion and water conservation research in China. She has conducted in-depth studies on gully erosion and cutting erosion processes, revealing their initiation and development mechanisms and quantifying the impact of driving factors such as rainfall, runoff, and terrain factors on slope erosion.

Cai Chongfa, Huazhong Agricultural University, he is a leading expert in the field of soil erosion and conservation from a soil science perspective. He delves into mechanisms like aggregate breakdown in soil erosion. His research also covers soil structure - erosion relationships and erosion prediction.

Paolo Tarolli, University of Padova, Italy; he is a leading expert in the field of digital terrain analysis, earth surface processes analysis, hydro-geomorphology, remote sensing, GIS. New research directions focus on agricultural landscapes under climate change scenarios; sustainable agriculture to mitigate the impact of weather extremes and soil salinization; steep-slope agriculture and its heritage preservation. His research on the mitigation strategies of soil salinization in agriculture is cited in two official reports of European Commission.

Seyed Hamidreza Sadeghi, Tarbiat Modares University, Deputy President for WASWAC, Honorary President of Watershed Management Society of Iran, he is a leading expert in the field of Application of Microorganisms in Soil Erosion Inhibition in Different Soils, Watershed Health and Ecological security.

Shi Zhihua, Huazhong Agricultural University, He is Aa leading expert in the field of soil erosion prevention and control, soil and water conservation, and ecological restoration. He has made remarkable achievements in studying the mechanisms of soil erosion, developing innovative prevention and control technologies, and promoting the sustainable management of soil and water resources.

Zhang Guanghui, Beijing Normal University, he is a leading expert in slope soil-water dynamics and soil erosion. He has made remarkable achievements in soil detachment capacity and erosion dynamics, advancing our understanding of soil erosion processes and aiding in effective land management and conservation practices.