**Session Proposal**

# Session Title

Healthy Soil Uses for Humankind

# Session Organizers

Gary Feng, USDA-ARS, Genetics and Sustainable Agricultural Research Unit, gary.feng@usda.gov, primary contact person

Felipe A. Zuñiga U., Universidad Austral de Chile, Instituto de Bosques y Sociedad, [fzuniga@uach.cl](mailto:fzuniga@uach.cl), second contact person

# Session Description

Healthy soils are the key piece to achieving global sustainability and provide healthy environments for humankind. Changes in the land by different uses conversions imply changes in the soil and the environment. It is well known that land uses intensification (e.g. changes from native forest to croplands) alter the properties, functions and ecosystem services that the soil provides. To maintain 9 billion people in 2050 and together healthy soils which sequestering carbon, delivering nutrients, filtering water and providing raw materials is challenging. This challenge demands new ways of thinking and beyond, new ways to do agriculture, forestry and other activities that imply changes in the land.

This session will receive works related to traditional studies of land use changes and will pay special attention to new proposals to land management prone to sustainable management such as agroecology, regenerative agriculture, sustainable forestry, and others that help to maintain healthy soils for Humankind.

# Relevance

Land use change it is one of the most important Human impacts on the planet and the climate change. It is estimated that one third of the Earth was affected by these processes in the las sixty years. This impact affected the soil functions and its capacity to store and sequester carbon. Promoting this session allow i) update the information related to land uses changes and the effects in soil properties in more disadvantaged and less regulated regions and ii) to receive new sustainable management proposals focused in developing healthy soils to have a common future to share as Humankind.

# Format

Oral presentations and Poster presentations

# Proposed Speakers

Speaker 1, Davide Cammarano, professor at Aarhus University (Denmark). He is an internationally recognized soil scientist conducting research on precision agriculture, crop modeling, climate change impacts. He has over 12000 citations (Google Scholar), and an h-index of 53.

Speaker 2, Shu Kee Lam, associate professor at the University of Melbourne. He is an internationally recognized soil scientist conducting research on soil carbon and nitrogen dynamics in agroecosystems. He has over 130 peer-reviewed journal publications (including Nature, Nature Food, and Nature Communications), over 5,200 citations (Google Scholar), and an h-index of 37. He is named as a World’s Top 2% Cited Researcher in ‘Agronomy & Agriculture’ and ‘Earth & Environmental Sciences’ (2022, Elsevier) and has eight ‘Highly-Cited’ Papers (Top 1% cited, Web of Science). He was awarded the prestigious ICM AgriFood Award by ATSE, the Publication Medal by Soil Science Australia, and the IPNI Scholar Award. He has also attracted substantial external grant funding as a key and/or lead CI, with over $17M awarded since 2016 from the ARC, ACIAR, Department of Agriculture, Water and the Environment, and industry partners.

Speaker 3, Guangju Zhao, professor at Nanjing Hydraulic Research Institute, and professor at Northwest Agriculture and Forestry University from 2017 to 2024. He is a leading professor in soil science, has published more than 140 papers in journals such as Journal of Hydrology, Catena, Land Degradation Development, Geomorphology, with over 7,043 Citations (Google Scholar), and an h-index of 42.

Speaker 4, Manqiang Liu, professor of Nanjing Agricultural University, a leading professor in soil science. He is on the editorial board of Applied Soil Ecology, Rhizosphere and Journal of Nanjing Agricultural University. He is currently a lifetime member of the International Society of Soil Ecology, a member of the Chinese Society of Soil Science, a member of the Chinese Ecological Society, and the vice president of the Jiangsu Ecological Society. He has published more than 100 papers, with over 7,166 Citations (Google Scholar), and an h-index of 47.