



Tropentag, September 20-22, 2023, hybrid conference
“Competing pathways for equitable food systems transformation:
Trade-offs and synergies”

The interplay of agriculture, land use, climate change, and food security

CATHERINE NAKALEMBE

University of Maryland, Dept. of Geographical Sciences, United States

Abstract

Food security in sub-Saharan Africa is a critical issue, with approximately 140 million people facing acute food insecurity, according to the 2022 Global Report on Food Crises. To address this challenge effectively, understanding the dynamics of land use, climate change impacts on agricultural productivity, and factors influencing food access and resource distribution is crucial. This talk delves into the complex interplay between agriculture, food security, land use, and climate change in sub-Saharan Africa, exploring sustainable pathways and the role of remote sensing and machine learning technologies in enhancing decision-making. We can identify opportunities for more sustainable and equitable solutions by utilising data-driven approaches, especially concerning regional food security. The talk emphasises the potential for these technologies to drive positive change on a large scale.