Special Issue

Advances in Proximal and Remote Sensing for Optimizing Agricultural and Horticultural Production and Postharvest Systems

Message from the Guest Editors

Remote sensing offers an innovative and efficient alternative. By providing accurate and timely data, remote sensing supports strategies for improving agricultural productivity and sustainability. Monitoring crop growth, assessing soil quality, tracking plant health, and optimizing irrigation, benefit from these technologies. In recent years, the agricultural sector has adopted advanced tools. While satellite-based remote sensing has been used over the past five decades, challenges like cloud cover and limited spatial resolution have spurred interest in higher-resolution imagery and on-demand data acquisition through Unmanned Aerial Systems (UAS). These platforms, along with ground-based robots, provide detailed and frequent insights into crop management. Advancements in software technologies—leveraging artificial intelligence (AI) and machine learning (ML)—have enhanced data analysis capabilities. These systems enable near real-time decision-making, facilitating farm operations. Precision agriculture offers transformative potential to sustainably manage resources, increase yields, and maintain soil and plant health for long-term productivity.

Guest Editors

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