Recent Applications of Remote Sensing and Machine Learning in Smart Agriculture

Guest Editors:

Dr. Zhenwang Li
Jiangsu Key Laboratory of Crop Genetics and Physiology/Jiangsu Key Laboratory of Crop Cultivation and Physiology, Agricultural College, Yangzhou University, Yangzhou 225009, China

Dr. Liujun Xiao
College of Agriculture, Nanjing Agricultural University, Nanjing 210095, China

Dr. Yahui Guo
College of Urban and Environmental Sciences, Central China Normal University, Wuhan 430079, China

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Message from the Guest Editors

Smart Agriculture upgrades conventional farming methods and world agriculture strategies to an optimized value chain by integrating innovative information and communication technologies, such as remote sensing, machine learning, big data analysis, and the Internet of Things. Recent advances in remote sensing technology enable the low-cost, high-resolution, and flexible observation of crops and soils, and the obtainment of diagnostic information on crop growth, water stress, soil fertility, weed, disease, lodging, and 3D topography. Machine learning technologies exhibit a considerable potential to handle numerous challenges in the establishment of knowledge-based farming systems. In this context, the aim of this Special Issue is to seek high-quality papers related to recent progress in remote sensing (ground-based, drone-based, and satellite-based), artificial intelligence (deep learning and machine learning), and big data analysis for the application of smart agriculture, especially UAV-based high-throughput phenotyping, crop growth status and nutrition diagnosis, and yield estimation based on multisource remote sensing data and machine learning.

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Prof. Dr. Les Copeland
Sydney Institute of Agriculture,
School of Life and Environmental
Sciences, The University of
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