Special Issue

Precision Agriculture for the Next Generation: Linking Data, Environment, and Advanced Technologies

Message from the Guest Editor

Precision agriculture leverages data-driven tools, such as remote sensing, GPS, to optimize the management of crops, soil, and resources. Globally, the adoption of smart farming technologies is accelerating. Advances in sensing technologies, IoT networks, robotics, and artificial intelligence are transforming agriculture by enabling real-time, site-specific decision-making that enhances productivity and reduces environmental footprints. In line with AgriEngineering's mission as a cross-disciplinary journal at the intersection of engineering and agriculture, this Special Issue will highlight cutting-edge research that integrates phenotypic farm data and environmental conditions with next-generation technologies. This Special Issue invites contributions that present innovative precision farming systems integrating big data with AI, machine learning, robotics, UAVs, IoT, remote sensing, and advanced analytics to improve agricultural sustainability and productivity. Submissions presenting field-scale implementations and real-world applications are encouraged.This Special Issue aims to chart the path toward more resilient, sustainable, and efficient agricultural systems worldwide.

Guest Editor

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