

Special Issue

Intelligent Perception, Decision-Making, and Precision Operation in Agriculture: Technologies and Applications

Message from the Guest Editors

The integration of advanced technologies into the agricultural sector has witnessed remarkable progress. However, it still faces significant hurdles. This Special Issue aims to gather cutting-edge research and innovative applications that advance the theory and practice of smart agriculture, providing solutions to enhance agricultural productivity, resilience, and sustainability. Topics of interest include, but are not limited to, the following: **Advanced Sensing and Perception:** Sensors for soil, crop phenotyping, animal health, and environmental monitoring. **AI and Decision Models:** Algorithms for yield prediction, disease detection, and decision support for seeding, transplanting, fertilization, and spraying. **Precision Operation Technologies:** Variable-rate application systems, intelligent machinery, and robotics for automated field operations. **Smart Farming Platforms:** IoT systems, digital twins, and knowledge graphs for integrated farm management. **Sustainable and Small-Scale Solutions:** Low-cost technologies for smallholders and solutions supporting green, low-carbon agriculture.

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About the Journal

Message from the Editor-in-Chief

AgriEngineering (ISSN 2624-7402) is an international open access, open-source, and cross-disciplinary scientific journal on the engineering science of agricultural and horticultural production. Our aim is to encourage scientists to publish their experimental and theoretical research, along with the full set of schematics, source-code, and mechanical design models leading to accelerated and rapid dissemination of leading-edge technologies emerging in agricultural, environmental, and agronomic engineering. *AgriEngineering* publishes articles, technical notes, reviews, commentaries, and case/field reports, as well as Special Issues on particular subjects.

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