Special Issue

Automation and Digitalization in Orchard Machinery

Message from the Guest Editors

With the rapid growth of industrial manufacturing, smart sensors, computing power, and Artificial Intelligence (AI)-enabled algorithms exploring automated and digitalized orchard machinery seems to be an alternative and promising solution. To address the emerging issues during the orchard production pipeline (planting, training, thinning, pollinating, spraying, irrigating, disease monitoring, pest control, harvesting, post-harvesting), this Special Issue aims to bring a collection of outstanding articles with the main focus on (but not limited to) the following research areas: field robotics for tree fruit crops (e.g., path planning and obstacle avoidance systems), automated machine prototypes for orchard productions, advanced in-field sensing technologies, deep learning-enabled machine vision (e.g., 3D canopy reconstruction, object detection, and semantic/instance segmentation), precision canopy management, precision crop load management; mechatronics in unmanned ground/aerial vehicles (UGVs/UAVs), self-guided platforms, automated orchard mapping systems, advanced control systems, innovations in end-effector/actuation design, and canopy–machinery interactions.

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Deadline for manuscript submissions

closed (31 December 2022)

AgriEngineering

an Open Access Journal by MDPI

Impact Factor 3.0
CiteScore 4.7

mdpi.com/si/91058

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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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manuscripts are peer-reviewed and a first decision is provided to authors approximately 22 days after submission; acceptance to publication is undertaken in 6.3 days (median values for papers published in this journal in the second half of 2025).

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