

# Special Issue

## Artificial Intelligence and Machine Vision for Full-Cycle Orchard Production Management and Harvest

### Message from the Guest Editors

This Special Issue aims to highlight cutting-edge research on the application of AI and machine vision to early-stage orchard management. Contributions addressing, but not limited to, the following topics are highly welcome:

- Early flower detection and blooming stage recognition;
- Phenological period monitoring;
- Small-fruit detection and segmentation in natural conditions;
- Early fruit growth stage classification;
- Intelligent sensor systems for real-time orchard monitoring;
- Development of orchard-specific annotated datasets;
- Deep learning models for early phenotypic analysis.

By showcasing recent innovations in AI and CV for orchard phenotyping and management, this Special Issue seeks to foster interdisciplinary collaboration among researchers in horticulture, agricultural engineering, plant phenotyping, and intelligent sensing technologies.

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### Guest Editors

Dr. Weikuan Jia  
Dr. Nan Wang  
Dr. Danyan Chen

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### Deadline for manuscript submissions

28 February 2026



# Horticulturae

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## About the Journal

### Message from the Editor-in-Chief

Horticultural plants and their products provide sustenance, health, and beauty. A confluence of factors is putting increasing pressure on horticultural production to evolve, and innovative research is addressing these challenges. *Horticulturae* provides a venue to communicate research results in a rapid manner with open access, allowing everyone the opportunity to stay abreast of leading research addressing horticulture. I invite you to consider publishing the results of your research in this high quality, peer-reviewed journal.

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### Editor-in-Chief

Prof. Dr. Luigi De Bellis  
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