

Special Issue

Application of Robotics and Artificial Intelligence (AI) in Permanent Crops

Message from the Guest Editors

Modern agriculture faces numerous challenges, including labor shortages, diminishing arable land, climate change, soil degradation, water scarcity, and complex pest and disease management. These challenges call for innovative solutions that go beyond traditional farming practices. Recent advancements in robotics and artificial intelligence (AI) present transformative opportunities to address these issues. From improving productivity and sustainability to reducing environmental impact, robotics and AI have the potential to revolutionize agriculture. The growing importance of these technologies is underscored by the global agricultural robotics market, projected to reach USD 8.82 billion by 2025. This Special Issue will explore the diverse applications of robotics and AI in agriculture, addressing topics such as data-driven decision-making, precision farming, autonomous systems, and advanced monitoring and sensing technologies. Contributions will highlight innovations in crop monitoring, pest detection, yield prediction, and weeding and treatment systems, as well as tools supporting real-time and predictive decision-making.

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Message from the Editor-in-Chief

Agriculture (ISSN 2077-0472) is an international, cross-disciplinary and scholarly journal on the science and technology of crop and animal production, and management of the natural resource base for agricultural production. We invite submissions from authors according to the aims and scope of the journal described in more detail on this page. *Agriculture* is published in an open access format – articles are published on the journal's website immediately after acceptance, giving the scientific community and the public unlimited and free access to the content.

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