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Novel Applications of Optical Sensors and Machine Learning in Agricultural Monitoring—2nd Edition

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Deadline for manuscript submissions:
closed (25 June 2024)

Message from the Guest Editors

Optical sensors play an essential role in agriculture production management. In particular, monitoring plant health, growth condition, and insect infestation have traditionally been approached by performing extensive fieldwork. The processing and analysis of huge amounts of data from different sensors still face many challenges. Machine learning can derive and process agricultural information from optical sensors onboard ground, air, and space platforms.

This Topic seeks to compile the latest research on optical sensors and machine learning in agricultural monitoring. The following provides a general (but not exhaustive) overview of subjects that might be relevant to this Topic:

- Machine learning approaches for crop health, growth, and yield monitoring.
- Combined multisource/multi-sensor data to improve crop parameter mapping.
- Crop-related growth models, artificial intelligence models, algorithms, and precision management.
- Farmland environmental monitoring and management.
- Ground, air, and space platform application in precision agriculture.
- Development and application of field robotics.
- High-throughput field information surveys.
- Phenological monitoring.

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Message from the Editor-in-Chief

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