Special Issue

Spectroscopy and Sensing Technologies for Smart Agriculture

Message from the Guest Editor

Global agriculture faces mounting challenges as it strives to meet rising demands for food, water, and energy while conserving resources and reducing environmental impact. Issues such as climate change, declining soil health, and the prevalence of pests and diseases further intensify the pressure to adopt more sustainable farming practices. Spectroscopy and advanced sensing technologies offer powerful tools to address these challenges by enabling non-destructive, real-time monitoring of crops, soils, and the environment. Combined with machine learning, robotics. and IoT-based platforms, these approaches are driving innovations in precision and smart agriculture. From early disease detection to nutrient and water-use optimization, sensor-driven solutions are helping growers make data-informed decisions that improve productivity and sustainability.

Guest Editor

Dr. Md Zafar Igbal

Department of Agricultural and Biological Engineering, University of Florida, Gainesville, FL, USA

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Sensors
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
sensors@mdpi.com

mdpi.com/journal/ sensors





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Prof. Dr. Vittorio M. N. Passaro

Dipartimento di Ingegneria Elettrica e dell'Informazione (Department of Electrical and Information Engineering), Politecnico di Bari, Via Edoardo Orabona n. 4, 70125 Bari, Italy

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