

## Special Issue

# The Role of Nanotechnology in Developing a Sustainable Agriculture: Novel Challenges and Perspectives

### Message from the Guest Editors

Vast classes of designed and engineered nanomaterials have been successfully applied for increasing the nutrient-use efficiency, the quality and quantity of plant yields, improving plant growth and providing effective tools for pathogen detection, crop protection and stress management. It also plays an important role in soil and water remediation, amending the detrimental effects of past unsustainable and pollutant agricultural practices. Despite the promising results obtained using novel nanomaterial-based approaches, in-depth studies on their environmental risks, bioavailability and possible toxicity are scarce, although being a research field worth of investigation before their effective deployment in large-scale applications.

Thus, in this Special Issue, we aim to provide a discussion platform and welcome all contributions integrating nanomaterial-based technology into agriculture. Papers should explore development in terms of the sustainability of the syntheses and preparation of nanomaterials, novel applications and beneficial effects with respect to current practices, as well as their safety and environmental risk assessments for their future deployment.

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### Guest Editors

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### Deadline for manuscript submissions

closed (15 December 2023)



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### Editor-in-Chief

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