

Special Issue

Application of Nanotechnology in Sustainable Agriculture

Message from the Guest Editors

Advances in nanotechnology has unfolded novel avenues in the agriculture industry to address various challenges threatening global food security. However, concerns regarding their sustainable application remain unanswered. Also, mechanistic information at different hierarchical levels are required to elucidate plant response pathways involved in nanomaterial (NM) exposure. Practical efforts are necessary to assess the efficiency and benefits of NM-based products over existing agrochemicals. In this special issue, we invite scientists to contribute original research, critical reviews, and opinions, exploring NM applications in agriculture by various means, including but not limited to crop productivity and protection, targeted/controlled delivery mechanisms, sensing plant stress and soil/water quality, or packaging. We encourage mechanistic research on NM-plant interactions using novel techniques and robust data handling, especially for crops related to human consumption or animal feed. We also encourage risk-assessment studies of NM-based products for their safe and sustainable applicability in agriculture, thereby contributing towards regulatory decision making.

Guest Editors

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Deadline for manuscript submissions

closed (30 May 2021)



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