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# Plant Stress-Induced Responses and Tolerance Mechanisms at Biochemical, Cellular, Physiological and Molecular Levels

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# **Message from the Guest Editors**

Dear Colleagues,

Plants are constantly facing adverse environmental conditions, including biotic stress conditions from deleterious microorganisms (fungi, bacteria, viruses, viroids, phytoplasma, and nematodes) and abiotic stresses such as low and high temperature, salinity, drought, flood, heavy metal toxicity and oxidative stress. These biotic and abiotic factors impact plant growth, reproduction, yield and survival. These stresses are the major causes of plant loss worldwide. To overcome these stresses, plants respond simultaneously through several tolerance mechanisms to counter the disturbances and retain health and protection. Further, the tolerance mechanisms and responses to these stresses develop at multiple levels, including cellular, tissue, morphological, physiological, anatomical and molecular levels.

This Research issue encourages leading plant scientists to submit their studies on advancing our understanding about fundamental processes, stress signaling, and adaptation mechanisms that develop in plants in response to various biotic and abiotic stresses.

Dr. Iftikhar Ali Prof. Dr. Byoung Ryong Jeong Guest Editors



**Special**sue









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