

## Special Issue

# Ion Channels and Membrane Trafficking in Plant Stress Responses

### Message from the Guest Editors

This Special Issue focuses on the critical roles of ion channels and membrane trafficking in plant responses to abiotic (e.g., drought, salinity, and temperature extremes) and biotic (e.g., pathogens) stresses. Ion channels selectively regulate ion transport across membranes, directly impacting cell turgor, osmotic adjustment, and electrical signaling to maintain ion homeostasis. Concurrently, membrane trafficking dynamically modulates the protein composition of plasma and organellar membranes via vesicle secretion, endocytosis, and sorting, thereby influencing stress response efficacy. Understanding the interplay between these mechanisms is vital for enhancing plant adaptive resilience in the face of climate change. This Special Issue seeks cutting-edge research to decipher the underlying molecular mechanisms, aiming to foster theoretical innovation and technological breakthroughs for sustainable agriculture, ecological restoration, and stress-tolerant crop breeding. Submissions are invited across key areas including ion dynamics, gene function, post-translational modifications, spatiotemporal crosstalk, novel techniques, and agricultural applications.

### Guest Editors

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### Deadline for manuscript submissions

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## Plants

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### Message from the Editor-in-Chief

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### Editor-in-Chief

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