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Integrative Biology in Plants: From Molecular Stress Response to Systems Biology

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Message from the Guest Editors

Stress response in plants has been widely studied from a physiological perspective combined with biochemical and molecular analysis. In this regard, the complexity of molecular analysis has increased due to breakthroughs in high-throughput omic techniques in plant sciences. Technical advancements have allowed for a more global or system-level analysis of plant stress response with higher complexity about data and result analysis. This approach exposes the existing and more complete interconnection between different molecular levels in plant stress response. The integration of different layers (like physiological, metabolomic) is not an easy or direct task, and its potential for the generation of novel knowledge is not always fully noticed by plant science community. Therefore, the application overview of representative and state-of-the-art methods used in plant integrative biology for stress response study is needed. In this Issue, we are looking at how the integration of different molecular layers allows us to obtain a more complete view of plant stress response and how it could increase potential applicability of obtained results by paving the way for systems biology modeling.



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Special Issue



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Message from the Editor-in-Chief

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