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Integration of Light Signaling, Circadian Clock and Metabolic Responses in a Changing Climate

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Message from the Guest Editors

Plants use light as an environmental input to coordinate their physiological and developmental processes in order to maximize their survival. Light signals also reset the circadian clock, an essential internal time-keeping mechanism that controls and anticipates daily biological processes. On the other hand, the circadian clock “gates” light responses to ensure that multiple physiological outputs occur at a precise time. Therefore, this interconnection of endogenous circadian signals with light-cycling inputs is essential to optimize both diel and seasonal plant growth responses, developmental transitions, and metabolism. Moreover, a large proportion of oscillating transcripts and their physiological outputs are important for environmental stress responsiveness; however, further research is required to identify the signaling cascades involved, the trade-offs imposed, and the degree of conservation between model plants and crops. This Special Issue will focus on the integration of the circadian clock with light signaling and the metabolic responses that mediate plant growth and development under different environmental conditions, both in model plants and crops.



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Special *issue*



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Message from the Editor-in-Chief

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