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Plant Photosynthetic Gas Exchange: a Current Perspective

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Deadline for manuscript submissions:
closed (31 July 2018)

Message from the Guest Editors

Dear Colleagues,

Quantifying the components of the photosynthetic CO_2 uptake pathway from air to the chloroplast is fundamental to understanding limitations to plant carbon assimilation and growth. These limitations to CO_2 gas exchange can occur at the canopy, crown, leaf, cell, subcellular, and molecular levels, and involve a host of plant structural and environmental variables. Physiologically, the light reactions of photosynthesis also influence the CO_2 uptake pathway by providing the energy driving carbon assimilation. Quantifying the resistance (1/conductance) of each component of the pathway from the ambient air to the chloroplast continues to be a challenge today, potentially providing specific targets for identifying limitations expressed at the molecular level. Moreover, these pathway resistors are often driven by environmental variables such as sunlight incidence, temperature, humidity, soil water and nutrient availability.

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Message from the Editor-in-Chief

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