Special Issue

Plant Photosynthetic Gas Exchange: a Current Perspective

Message from the Guest Editors

Quantifying the components of the photosynthetic CO2 uptake pathway from air to the chloroplast is fundamental to understanding limitations to plant carbon assimilation and growth. These limitations to CO2 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 CO2 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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Plants is an open access journal which provides an advanced forum for research findings in areas related to plant function, its physiology, biology, taxonomy, stresses, and its interactions with other organisms. It publishes original research articles, reviews, reports, conference proceedings (peer reviewed full articles) and communications. In original research papers, it is important that full experimental details are provided. We also encourage timely reviews and commentaries on topics of interest to the plant research community.

Editor-in-Chief

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