



an Open Access Journal by MDPI

# Plant Photosynthetic Gas Exchange: a Current Perspective

Guest Editors:

# Prof. William K. Smith

Department of Biology, Wake Forest University, North Carolina, NC 27109, USA

#### Dr. Keith Reinhardt

Department of Biological Sciences, Idaho State University, Idaho, ID 83209, USA

Deadline for manuscript submissions: closed (31 July 2018)

### **Message from the Guest Editors**

Dear Colleagues,

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 CO<sub>2</sub> 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.









an Open Access Journal by MDPI

## **Editor-in-Chief**

#### Prof. Dr. Dilantha Fernando

Department of Plant Science, University of Manitoba, Winnipeg, MB R3T 2N2, Canada

#### Message from the Editor-in-Chief

*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 community.

## **Author Benefits**

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), PubMed, PMC, PubAg, AGRIS, CAPlus / SciFinder, and other databases.

Journal Rank: JCR - Q1 (Plant Sciences) / CiteScore - Q1 (Plant Science)

## **Contact Us**

*Plants* Editorial Office MDPI, St. Alban-Anlage 66 4052 Basel, Switzerland Tel: +41 61 683 77 34 www.mdpi.com mdpi.com/journal/plants plants@mdpi.com X@Plants\_MDPl