Special Issue

Crop Photosynthesis: Today's Challenge for Our Future

Message from the Guest Editors

Modern agriculture must address the increasing global demand for food. Among all of the possible targets to improve crop yield, photosynthesis stands out as a plant trait that remains significantly below its theoretical efficiency limit. Current solar energy to biomass conversion rates in field conditions are estimated to be lower than 1% (with an effective yield depending on the species). Enhancing crop photosynthesis presents a compelling challenge for modern scientists, requiring interdisciplinary collaboration across agronomy, biology, biotechnology, genetics, biophysics, and computational biology. This Special Issue seeks contributions that explore various aspects of the photosynthetic process aimed at improving photosynthetic efficiency in crops or enhancing plant productivity more broadly. Submissions are welcome in the form of original research articles, reviews, modelling studies, and methodological papers. These works may focus on topics ranging from molecular-level mechanisms to field-scale applications, encompassing areas such as biochemistry, physiology, genetics, evolutionary studies, and field trials involving both model and crop plants.

Guest Editors

Prof. Dr. Luca Dall'Osto
Dr. Alberta Pinnola
Dr. Zeno Guardini

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Agronomy
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
agronomy@mdpi.com

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Editor-in-Chief

Prof. Dr. Leslie A. Weston
Gulbali Centre for Agriculture, Water and Environment Research, Charles Sturt University, Wagga Wagga, NSW 2678, Australia

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