



## Sensors, IoT Technologies, Modeling, and Signal Processing for Monitoring Biophysical and Physiological Signals in Plants

Guest Editors:

**Dr. Luis M. Contreras-Medina**

Faculty of Engineering,  
Autonomous University of  
Querétaro, Querétaro 76010,  
Mexico

**Dr. Jose Alfredo Padilla-Medina**

Department of Electrical and  
Electronic Engineering, National  
Technological Institute of Mexico  
in Celaya, Celaya, Guanajuato  
38010, Mexico

**Dr. Enrique Rico-Garcia**

Faculty of Engineering,  
Autonomous University of  
Querétaro, Querétaro 76010,  
Mexico

Deadline for manuscript  
submissions:

**closed (30 November 2023)**

### Message from the Guest Editors

Plants constantly face biotic and abiotic stresses which cause a reduction in yield and food availability worldwide. In order to face these threats, plants generate physiological and biophysical signals, which can measure if they are being affected and by how much in order to adopt an early and adequate management strategy or to measure the effect of stress treatments to increase defensive secondary metabolites; these signals, which are related to biochemical, enzymatic, and molecular activity, can be detected using suitable sensors that, in many cases, incorporate sophisticated technology that improves the precision of the measurements as well as the suitability, transmission, and analysis of data. Some physiological and biophysical signals present in plants include photosynthesis; transpiration; root, stem, and leaf temperature; chlorophyll fluorescence; visible symptomatology; vibration; sound; electricity; etc.

This Special Issue covers, but is not limited to, sensors and IoT technologies used to monitor such signals in plants, data-processing techniques, and modeling to relate biochemical, enzymatic, and molecular activities to biophysical and physiological signals.





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 commentaries on topics of interest to the plant research 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 (Ecology, Evolution, Behavior and Systematics)

## Contact Us

---

*Plants* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/plants](http://mdpi.com/journal/plants)  
[plants@mdpi.com](mailto:plants@mdpi.com)  
[X@Plants\\_MDPI](https://twitter.com/Plants_MDPI)