



## Applications of Spectral Techniques in Plant Physiology

Guest Editor:

**Dr. Kumud Bandhu Mishra**

Laboratory of Ecological Plant  
Physiology, Czech Academy of  
Sciences, Global Change  
Research Institute, Bělidla 4a, 603  
00 Brno, Czech Republic

Deadline for manuscript  
submissions:

**closed (31 December 2025)**

### Message from the Guest Editor

Dear Colleagues ,

The interaction of light with biological photosynthetic organisms results in physical phenomena such as scattering, reflection, absorption, and transmission; absorbed light oxidizes water molecules into molecular oxygen and protons and initiates photosynthesis via a series of highly complex photochemical and biochemical reactions; reflected light and scattered light are also highly informative and contain information on pigment compositions and/or surface structures. A range of spectroscopy techniques, with both non-imaging and imaging capabilities, have been widely used to unravel insights into photochemical, biochemical, and metabolic processes, as well as the mechanisms of plant photosynthetic reactions and their interactions with biotic and abiotic stresses on physiological states of the plants. This Special Issue will compile original research, reviews, perspectives on progress, technological breakthroughs, and challenges in the application of the spectroscopic techniques in plant physiology.





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)