

Special Issue

Effects of the Extraterrestrial Environment on Plants

Message from the Guest Editors

This Special Issue welcomes high-quality papers that study the effects of an extraterrestrial environment on plants (e.g., responses to altered gravity, radiation tolerance mechanisms) as well as on cultivation challenges in space farming (e.g., nutrient and water delivery systems, light and airflow management, and ISRU—in situ resource utilization) to achieve a deeper knowledge about the role of autotrophs in bioregenerative life-support systems (BLSS) for human space exploration. The long-term human permanence in space will rely on BLSS. These systems, attempting to create an Earth-like environment, cannot exist without autotrophs, which represent a source of fresh and high-quality food, and are fundamental for important ecological functions such as air regeneration, water recovery, and waste recycling. Plants can adapt to extreme environments on Earth and can grow and develop even in the presence of microgravity and ionizing radiation. However, the development of BLSS requires advances and synergic interactions among engineering, agrotechnology, botany, plant ecology, and medical expertise.

Guest Editors

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Deadline for manuscript submissions

closed (31 December 2023)



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About the Journal

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, and 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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