

Special Issue

Complex Interactions of Applied Artificial Intelligence, Machine Learning and Plant Science in Space Food Production

Message from the Guest Editors

Plant science can benefit from the application of AI to help create self-sustaining ecosystems by optimizing resource efficiency, lowering dependency on outside sources, recycling nutrients or materials within the system, and continuing to produce a consistent amount of fresh food for human consumption. The goal of AI in plant science for space food production is to develop long-term space missions or extraterrestrial colonization sustainable systems. This Special Issue in *AgriEngineering* explores the intersection of applied artificial intelligence (AAI), machine learning (ML), and plant science within space food production, aiming to achieve SDG 2 (Zero Hunger) and SDG 12 (Responsible Consumption and Production) by leveraging agricultural engineering principles and advanced intelligent technologies. By integrating AI-guided environmental controls and optimizing plant growth, this research seeks to establish self-sustaining ecosystems, aligning with SDG 9 (Industry, Innovation, and Infrastructure) for long-term space habitation, fostering sustainable food systems beyond Earth's confines.

Guest Editors

Dr. Ronnie S. Concepcion II

Dr. João Luiz Junho Pereira

Prof. Dr. D. Marshall Porterfield

Dr. Jane Roche

Dr. Colin Kruse

Deadline for manuscript submissions

closed (31 January 2025)



AgriEngineering

an Open Access Journal
by MDPI

Impact Factor 3.0
CiteScore 4.7



mdpi.com/si/195543

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

[mdpi.com/journal/
agriengineering](https://mdpi.com/journal/agriengineering)





AgriEngineering

an Open Access Journal
by MDPI

Impact Factor 3.0
CiteScore 4.7



[mdpi.com/journal/
agriengineering](https://mdpi.com/journal/agriengineering)



About the Journal

Message from the Editor-in-Chief

Editor-in-Chief

Dr. Mathew G. Pelletier

Retired Scientist from Agricultural Research Service, United States
Department of Agriculture, Lubbock, TX, USA

Author Benefits

High Visibility:

indexed within Scopus, ESCI (Web of Science), PubAg, FSTA, AGRIS, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Agricultural Engineering) / CiteScore - Q1 (Horticulture)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 20.6 days after submission; acceptance to publication is undertaken in 5.4 days (median values for papers published in this journal in the first half of 2025).