Special Issue

Microbial Interactions with Plants: Advancing Nitrogen Fixation, Uptake, and Utilization

Message from the Guest Editor

Microbial interactions with plants play a crucial role in nitrogen cycling, fundamentally influencing plant growth, soil health, and ecosystem sustainability. The diverse microbial interactions are key to developing sustainable agricultural practices, reducing dependency on synthetic fertilizers, and supporting more efficient nutrient utilization.

This Special Issue in Nitrogen aims to explore recent advances in our understanding of how microbial partnerships with plants drive nitrogen fixation, enhance nitrogen uptake, and optimize nitrogen utilization. We welcome studies focused on the following topics:

- Mechanisms of nitrogen fixation, uptake, and assimilation facilitated by various microbial species;
- The role of symbiotic and associative microbes in boosting plant nitrogen efficiency;
- Genetic and biotechnological innovations for improving microbial contributions to nitrogen cycling;
- Applications of microbial inoculants and biofertilizers for sustainable nitrogen management in agriculture.

Guest Editor

Dr. Jun Zhou

Laboratoire Chrono-Environnement-UMR 6249 CNRS, Université Bourgogne Franche-Comté, Besançon, France

Deadline for manuscript submissions

31 December 2025

Nitrogen

an Open Access Journal by MDPI

Impact Factor 2.3
CiteScore 2.8

mdpi.com/si/223857

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

mdpi.com/journal/nitrogen

Nitrogen

an Open Access Journal by MDPI

Impact Factor 2.3
CiteScore 2.8

mdpi.com/journal/nitrogen

MDPI

About the Journal

Message from the Editor-in-Chief

Nitrogen, the element that is intimately associated with essentially all processes on Earth, is the broad focus of a new online, open access journal. The intention of this publication is to offer a venue for research papers, reviews, short notes, and communications that have as a nexus this critical element.

Editor-in-Chief

Prof. Dr. Stephen Macko
Department of Environmental Sciences, University of Virginia, Charlottesville, VA 22903, USA

Author Benefits

High Visibility:

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

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 19.7 days after submission; acceptance to publication is undertaken in 3.3 days (median values for papers published in this journal in the first half of 2025).

Journal Rank:

CiteScore - Q2 (Agricultural and Biological Sciences (miscellaneous))