

Special Issue

Nitrogen Cycling and Microbial Community Shifts in Soil Ecosystems

Message from the Guest Editors

Soil ecosystems are fundamental to global nitrogen (N) biogeochemistry, a process governed by complex microbial communities. The balance of N transformations—nitrification, denitrification, nitrogen fixation, and ammonification—is highly sensitive to environmental changes. Anthropogenic pressures such as climate change, land-use shifts, fertilizer use, and pollution alter microbial community structure and function. These shifts can affect nitrogen use efficiency (NUE), drive nitrous oxide (N₂O) emissions, and impact groundwater through nitrate leaching. This Special Issue will feature original research and reviews exploring the interplay between soil microbes and the nitrogen cycle under changing environments. We welcome studies using advanced molecular tools (metagenomics, metatranscriptomics, proteomics), stable isotope probing, and modeling to uncover mechanisms driving microbial responses and functional outcomes.

Guest Editors

Dr. Hanqing Wu

Dr. Quan Zhang

Dr. Xiantao Fang

Dr. Haifei Chen

Deadline for manuscript submissions

15 April 2026



Nitrogen

an Open Access Journal
by MDPI

Impact Factor 2.3
CiteScore 2.8



mdpi.com/si/254100

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

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





Nitrogen

an Open Access Journal
by MDPI

Impact Factor 2.3
CiteScore 2.8



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



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, CAPus / 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))