

## Special Issue

# Mode of Action of Allelopathic Compounds

### Message from the Guest Editors

Allelopathy is defined as a biological phenomenon in which one organism affects the growth, survival, and reproduction of other organisms by releasing chemicals into the environment. Nowadays, the concept of allelopathy has been expanded and includes the direct or indirect effects, both harmful or beneficial, of plants (or microbes) on other plants. In the 21st century, however, due to the development of omics techniques, it has become possible to describe allelopathic interactions at the genomic, transcriptomic, proteomic, and metabolomic levels. Thanks to this, it is also possible to determine more and more precisely the mechanisms of action of identified allelochemicals, as well as to identify the compounds responsible for the high allelopathic potential of different plant species. This Special Issue aims to highlight the most cutting-edge ideas on the role of allelopathic interactions, based on the mode of action of the identified allelopathic compounds. Studies focused on the role of phytohormones and other signalling molecules (ROS, RNS) can explain the disruptions in the metabolism of the acceptor's.

### Guest Editors

Prof. Dr. Agnieszka Gniazdowska

Department of Plant Physiology, Institute of Biology, Warsaw University of Life Sciences, Nowoursynowska 159, 02-776 Warsaw, Poland

Dr. Paweł Staszek

Department of Plant Physiology, Institute of Biology, Warsaw University of Life Sciences-SGGW, Nowoursynowska 159, Warsaw, 02-776, Poland

### Deadline for manuscript submissions

31 December 2025



## Biology

an Open Access Journal  
by MDPI

Impact Factor 3.5  
CiteScore 7.4  
Indexed in PubMed



[mdpi.com/si/222383](https://mdpi.com/si/222383)

*Biology*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[biology@mdpi.com](mailto:biology@mdpi.com)

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





# Biology

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.5  
CiteScore 7.4  
Indexed in PubMed



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



## About the Journal

### Message from the Editorial Board

A major strength of biological science is the diversity of approaches that biological scientists apply to their research problems. *Biology* reflects this diversity and brings together studies employing the varied experimental and theoretical approaches that are fueling biological discovery. *Biology*, the journal, is a fully peer-reviewed publication with a rapid and economical route to open access publication and is listed on PubMed. All articles are peer-reviewed and the editorial focus is on determining that the work is scientifically sound rather than trying to predict its future impact.

---

### Editors-in-Chief

Prof. Dr. Jukka Finne

Research Programme in Molecular and Integrative Biosciences, Faculty of Biological and Environmental Sciences, University of Helsinki, P.O. Box 56, FI-00014 Helsinki, Finland

Prof. Dr. Andrés Moya

Integrative Systems Biology Institute, University of Valencia and CSIC, 46980 Valencia, Spain

---

### Author Benefits

#### High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, PubAg, CAPus / SciFinder, and other databases.

#### Journal Rank:

JCR - Q1 (Biology) / CiteScore - Q1 (General Agricultural and Biological Sciences)

#### Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 17.4 days after submission; acceptance to publication is undertaken in 2.5 days (median values for papers published in this journal in the first half of 2025).