Special Issue

Novel Disinfectants and Antiviral Agents

Message from the Guest Editor

Currently, medical instruments are sterilized by autoclaving, gamma-ray treatment and, UV exposure, and the use of gases such as ethylene oxide, as hydrogen peroxide, formaldehyde, peracetic acid. Autoclaving is really quick, highly penetrative, and generate no toxic residues, but temperature of 120 □ could damage the material being sterilized. Treatment with gamma rays is highly penetrative, and involves low temperatures with no associated residues, but it could induce no changes in the properties of the materials and is a relatively slow process. UV treatment is fast, low cost with no toxic residues, and involves low temperatures, but the effectiveness of the sterilization is poor and may result in damage to the material. Although novel techniques have been developed, such as chemical treatment with supercritical carbon dioxide as well as freeze-drying and other methods, these procedures are often ineffective and may damage the materials being sterilized. Plasma is effective against a broad spectrum of pathogens. New kinds of herb extracts also will open the new fields in biological disinfection.

Guest Editor

Prof. Dr. Takashi Onodera
Research Center for Food Safety, University of Tokyo, Bunkyo-ku, Tokyo 113-8657, Japan

Deadline for manuscript submissions

closed (30 November 2025)

Microorganisms

an Open Access Journal by MDPI

Impact Factor 4.2
CiteScore 7.7
Indexed in PubMed

mdpi.com/si/241559

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

mdpi.com/journal/microorganisms

Microorganisms

an Open Access Journal by MDPI

Impact Factor 4.2
CiteScore 7.7
Indexed in PubMed

mdpi.com/journal/microorganisms

About the Journal

Message from the Editor-in-Chief

"Microorganism" merges the idea of the very small with the idea of the evolving reproducing organism is a unifying principle for the discipline of microbiology. Our journal recognizes the broadly diverse yet connected nature of microorganisms and provides an advanced publishing forum for original articles from scientists involved in high-quality basic and applied research on any prokaryotic or eukaryotic microorganism, and for research on the ecology, genomics and evolution of microbial communities as well as that exploring cultured microorganisms in the laboratory.

Editor-in-Chief

Dr. Nico Jehmlich
Department of Molecular Toxicology, UFZ-Helmholtz Centre for Environmental Research, 04318 Leipzig, Germany

Author Benefits

High Visibility:

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

Journal Rank:

JCR - Q2 (Microbiology) / CiteScore - Q1 (Microbiology (medical))

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 15.2 days after submission; acceptance to publication is undertaken in 2.9 days (median values for papers published in this journal in the first half of 2025).

MDPI