Special Issue

Pathogenic Biofilms: Physiology, Molecular Mechanisms and Counter Strategies

Message from the Guest Editors

Biofilms (BFs) make up a structured microbial community of sessile cells embedded in a extracellular polymeric substance (EPS) matrix, offering a survival strategy against adverse environmental factors or immune responses. Pathogenic bacteria in BFs benefit in terms of multidrug-resistance (MDR) growth, virulence, persistence, and acquisition. Consequently, BF-associated infections are involved in serious illness and death for the host. Some researches focused on the early stages of BF formation, such as molecular mechanisms of quorum sensing and early interactions between bacteria and surfaces. Other researches have aimed to degrade the EPS matrix or use bacterial viruses (phages) to destroy mature BFs. Each of these strategies aims to expand knowledge on the physiological and molecular mechanisms that lead to the formation and maturation of BFs. As of the Special Issue, we invite you to submit research articles, review articles, and short communications related to the physiology, molecular mechanisms, and counter strategies of pathogenic biofilms.

Guest Editors

Dr. Domenico Franco

Department of Chemical, Biological, Pharmaceutical and Environmental Sciences, University of Messina, Viale Ferdinando Stagno d'Alcontres, 31, 98166 Messina, Italy

Dr. Laura Maria De Plano

Department of Chemical, Biological, Pharmaceutical and Environmental Sciences, University of Messina, Viale Ferdinando Stagno d'Alcontres, 31, 98166 Messina, Italy

Deadline for manuscript submissions

31 December 2025

Microorganisms

an Open Access Journal by MDPI

Impact Factor 4.2
CiteScore 7.7
Indexed in PubMed

mdpi.com/si/200163

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