Special Issue

Advanced Hydrogels with Antibacterial Properties

Message from the Guest Editors

The search for innovative biomaterials capable of preventing bacterial colonization and promoting tissue healing has been stimulated by the global challenge of antimicrobial resistance. Due to their unique structural versatility, biocompatibility and ability to incorporate bioactive agents, hydrogels have emerged as a promising platform for developing advanced antibacterial strategies. This Special Issue, “Advanced Hydrogels with Antibacterial Properties”, aims to highlight recent progress in the design, synthesis, characterization, and biomedical applications of hydrogels with antibacterial potential. We invite contributions on a broad range of topics, including antibacterial mechanisms, biofilm inhibition, functional nanocomposites, drug delivery systems, and hybrid hydrogels. Particular attention will be given to translational approaches that connect materials science with clinical applications in medicine and dentistry, ranging from wound healing to infection-resistant restorative and implant therapies. Original research articles, reviews and short communications are welcome.

Guest Editors

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Deadline for manuscript submissions

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About the Journal

Message from the Editor-in-Chief

Gels (ISSN 2310-2861) is recently established international, open access journal on physical and chemical gel-based materials. The journal aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. General topics include but not limited to synthesis, characterization and applications of new organogels, hydrogels and ionic gels made either from low molecular weight compounds or polymers, composite and hybrid materials where a metal is by some means incorporated into the gel network, and computational studies of these materials in order to provide a better understanding of gelation mechanism. We cordially invite you to consider publishing with us and contribute with your own grain of sand to the advance in this fascinating field.

Editor-in-Chief

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 12.5 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).