Special Issue

Hydrogels: Properties and Application in Biomedicine

Message from the Guest Editors

Hydrogels represent a rapidly evolving class of biomaterials that combine structural versatility with high biocompatibility. Their ability to absorb and retain large amounts of water, mimic the extracellular matrix, and be functionalized with biological or synthetic cues makes them highly attractive for applications in tissue engineering, regenerative medicine, wound healing, drug delivery, and biosensing. This Special Issue aims to gather cutting-edge research and comprehensive reviews that address both fundamental aspects and translational potential of hydrogels in biomedicine. In this Special Issue, we welcome original research articles and reviews that cover, but are not limited to, the following topics:

- Design and synthesis of novel hydrogels for tissue engineering applications;
- Smart hydrogels for controlled drug delivery in regenerative medicine;
- Stimuli-responsive hydrogels activated by ultrasound, electromagnetic fields, or other external factors;
- Hydrogels in 3D bioprinting and scaffold development;
- Injectable hydrogels for regenerative therapies;
- Mechanistic studies of hydrogel degradation and bio-resorption;
- Application of hydrogels in wound healing and skin regeneration.

Guest Editors

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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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Author Benefits

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

Journal Rank:

JCR - Q1 (Polymer Science) / CiteScore - Q1 (Organic Chemistry)

Rapid Publication:

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).

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