Special Issue

Advances in Hydrogels for Regenerative Medicine

Message from the Guest Editors

Hydrogels have gained significant attention in regenerative medicine due to their remarkable ability to mimic the extracellular matrix, support cell proliferation, and facilitate targeted drug delivery. These highly versatile materials are engineered to provide suitable mechanical properties, and degradation rates, making them ideal for tissue engineering, wound healing, and controlled release applications. This Special Issue aims to bring together research and review articles focusing on the latest advancements in hydrogel technologies specifically tailored for regenerative medicine. 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;
- Application of hydrogels in wound healing and skin regeneration;
- Computational modeling and simulation of hydrogel behavior in biological environments.

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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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).