Special Issue

Gel-Based Materials for Cartilage Regeneration

Message from the Guest Editors

Cartilage injuries, which are associated with profound clinical implications, represent one of the most formidable challenges in regenerative medicine. The intrinsic inability of cartilage to heal itself necessitates the pursuit of groundbreaking solutions. In this context, gel-based materials stand at the forefront of innovation, offering unparalleled capacities to replicate the intricate architecture and biomechanical properties of native cartilage. The scope of this Special Issue includes, but is not limited to, the following topics:

- **Hydrogels:** Ingeniously designed to recapitulate the functional intricacies of cartilage, providing both mechanical integrity and a conducive cellular environment.
- **Injectable Gels:** Enabling minimally invasive administration, thereby reducing patient burden and enhancing therapeutic precision.
- **Natural vs. Synthetic Gels:** A comparative analysis aimed at optimizing the synergy between biocompatibility and mechanical robustness.
- **Advanced Fabrication Techniques:** Leveraging state-of-the-art methodologies such as 3D bioprinting and electrospinning to construct intricately tailored scaffolds.

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).

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