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Hydrogel-Based Scaffolds with a Focus on Medical Use

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Message from the Guest Editors

The development of scaffolds with optimal characteristics is more readily achievable in polymeric scaffolds. In particular, there is currently a great research interest in hydrogel-based scaffolds.

Hydrogel-based scaffolds have recently emerged as the most promising substrates for cell cultures to generate well-defined 3D biofabricated tissue, attracting significant research attention for their potential in medical applications.

These scaffolds act as bioactive substrate and structural supports, providing topographical and chemical stimuli for cell spreading, proliferation and differentiation *in vivo*. Among the specific scaffold characteristics, a high porosity and interconnectivity to facilitate scaffold/cell interactions, nutrient and oxygen infiltration and vascularization aim to obtain specific cellular responses. Scaffolds have sufficient mechanical properties to temporarily substitute the missing tissue and to permit essential physiological functions.

This Special Issue is dedicated to the design and development of advanced polymeric scaffolds and their applications for bone/cartilage/skin regeneration *in vitro* and *in vivo*.



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Special Issue



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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.

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