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Multifunctional Hydrogels for Tissue Engineering

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Message from the Guest Editors

Among various biomaterials, hydrogels are promising candidates for tissue engineering and regenerative medicine. Hydrogels are highly hydrated polymeric networks, crosslinked by a wide range of physical or covalent interactions. The polymeric networks can be rationally designed and tailored with highly tunable molecular building blocks. Both physical and covalent interactions can be designed to respond to various external stimuli, such as pH, temperature, enzyme, magnetic field and light, for which biophysical and biochemical properties can be readily manipulated. Moreover, hydrogels can be integrated with various micro- or nanostructures, in which therapeutic drugs can be easily encapsulated and embedded. Therefore, hydrogels are highly versatile platforms with multifunctionalities given by their polymeric networks and embedded micro- or nanostructures. Multifunctional hydrogels have been widely used in biomedical applications, especially tissue engineering for wound healing and musculoskeletal and nervous system regeneration.

This Special Issue aims to cover all aspects of multifunctional hydrogels with a focus on their biomedical applications in tissue engineering.

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Message from the Editorial Board

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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