Special Issue

Tough Hydrogels for Biomedical Applications 2.0

Message from the Guest Editor

This Special Issue on “Tough Hydrogels for Biomedical Applications” is dedicated to recent developments in the design, synthesis, characterization, and medical application of tough hydrogels.
Although hydrogels are widely used in various biomedical applications, conventional hydrogels are fragile and unsuitable for most load-bearing applications. Fracture energies of hydrogels are several orders of magnitude lower than those of connective tissues, which routinely experience physiological loads that are significantly higher than the failure strengths of hydrogels. Designing mechanically-tough hydrogels with exceptional recovery properties remains a keen scope of interest in the field. Recent strategies in designing tough hydrogels include interpenetrating and double-network hydrogels, nanocomposite hydrogels, topological or ring-sliding gels, tetra-arm hydrogels, and hydrogels composed of various reversible and self-healing chemistries. Potential applications for tough hydrogels include tissue engineering scaffold, drug delivery, tissue regeneration, tissue adhesive, actuator, soft robotic component, and medical and electronic devices for interfacing biological systems.

Guest Editor

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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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