Special Issue

Shaping and Structuring of Polymer Gels

Message from the Guest Editor

The majority of industrial gels are formed as apparently isotropic and homogeneous materials from polymer solutions by preparation processes including changing temperature, exerting mechanical stress, irradiating high-energy electromagnetic waves, and mixing with gelators. Gels with spatially resolved structures and mechanical properties could, however, help functionalizing materials with high performance in diverse fields. For example, gel-based micro/nano-patterning of electrical pathways enables us to prepare sophisticated soft devices. Nonuniform internal stress of micro/nanostructures in gels is often a key to develop self-shaping and actuating materials for biosensing, micro-robotics, and optics. Anisotropic artificial organs and tissues such as nerve fibers are shaped by using degradable gel scaffolds in tissue engineering, in which the characteristic shapes and structures of gels are generated by different methods such as diffusion of gelators, 3D printing, photopatterning, and the surface-mediated multicomponent approach. This Special Issue focuses on recent research and advances in shaping and structuring of polymer gels.

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.

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