Special Issue

Stimuli-Responsive Functional Gels

Message from the Guest Editor

Functional gels, as a significant class of smart materials, exhibit responsive behavior to diverse stimuli—including temperature, pH, solvent, ionic strength, light, and electric or magnetic fields—rendering them highly valuable for both academic research and industrial applications.Liquid crystal hydrogels represent another promising category of advanced functional materials, combining the ordered structure and stimulus sensitivity of liquid crystals with the flexibility and biocompatibility of hydrogels. These materials show broad potential across fields such as biomedical engineering, flexible electronics and sensing, soft robotics, and environmental and energy technologies. Meanwhile, hydrogels—known for their high water content, tunable mechanical properties, and biocompatibility—have also emerged as a promising platform for cultural heritage preservation. This Special Issue invites contributions on various types of stimulus-responsive functional gels, covering topics including but not limited to intelligent material design, synthesis strategies, performance enhancement, and exploration of application scenarios.

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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