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Synthesis and Application of Multifunctional Polymer-Based Hydrogel Composites

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Deadline for manuscript submissions:
closed (30 April 2025)

Message from the Guest Editors

Dear Colleagues,

Hydrogels, a three-dimensional polymeric network prepared from polymers and monomers through mainly cross-linking or grafting technology, can retain large amounts of water without dissolving. Hydrogels can be prepared by using different methods, such as solution and radiation methods, physical and chemical cross-linking methods, and energy-intensive methods. In recent years, hydrogels have been used in diverse fields like environmental, agricultural, biomedical, drug delivery, artificial organs, and electronic devices.

We propose this special issue, “Synthesis and Application of Multifunctional Polymer-Based Hydrogel Composites,” to provide updated research on hydrogel composites and new technology for advanced applications. The scope of the issue includes the design and synthesis of new types of hydrogels, the application of hydrogel composites in diverse fields, the characterization and analysis of physical properties such as swelling kinetics, and the effect of different parameters (pH, temperature, pressure, nature of solvents) on hydrogels for various advanced applications.

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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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