

## Special Issue

# Novel Polymer-Based Smart Hydrogels: Design, Properties and Applications

### Message from the Guest Editors

Hydrogels have attracted much attention in various fields. Hydrogels are versatile polymer networks, which can be regulated by three-dimensional structure design and can thus be loaded with different aids and can greatly improve the physical properties. Hydrogels have been used for different applications such as wound healing, tissue engineering, biosensors, etc. Several polymeric hydrogels provide a sustained-release drug platform, which is an emerging drug delivery system. By using biocompatible and biodegradable natural or synthetic materials as carriers, hydrogels can be chemically or physically bound to different payloads such as drugs, growth factors, etc., to create long-acting formulations for biomedical applications. Herein, in this Special Issue entitled “Novel Polymer-Based Smart Hydrogels: Design, Properties and Applications”, we aim to discuss and illustrate the recent developments and future perspectives of hydrogels for biosensors, intelligent drivers, intelligent building materials, and smart biomedical material applications. Contributions based on the above applications and technologies are most welcome.

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### Guest Editors

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Dr. Fang-Chang Tsai

Dr. Xue-Qing Zhan

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### Deadline for manuscript submissions

31 May 2026



## Gels

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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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### Editor-in-Chief

Prof. Dr. Esmail Jabbari

Biomimetic Materials and Tissue Engineering Laboratory, Department of Chemical Engineering, University of South Carolina, Columbia, SC 29208, USA

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