



gels



an Open Access Journal by MDPI

Design, Characterization and Applications of Smart Hydrogels

Guest Editors:

Dr. Zhen Zhang

Fiber and Biopolymer Research
Institute, Texas Tech University,
Lubbock, TX 79403, USA

Prof. Dr. Noureddine Abidi

Fiber and Biopolymer Research
Institute, Department of Plant
and Soil Science, Texas Tech
University, P.O. Box 45019,
Lubbock, TX 79403, USA

Deadline for manuscript
submissions:

closed (31 December 2025)

Message from the Guest Editors

Smart hydrogels represent a versatile category of materials capable of altering their structure and characteristics in response to external stimuli, such as temperature, pH, light, and electric fields. These materials consist of hydrophilic polymer networks that have a remarkable capacity to soak up and hold substantial amounts of water. A distinctive feature of smart hydrogels is their reversible volumetric and shape changes when exposed to variations in their surrounding environment. This adaptability renders them highly suitable for numerous applications, including drug delivery, tissue engineering, sensors, and actuators. In summary, smart hydrogels offer significant promise across diverse fields due to their unique properties and adaptability.

This Special Issue, entitled Design, Characterization and Applications of Smart Hydrogels, aims to highlight recent advances in research on functional gels materials. We welcome submissions including fundamental studies and application-focused research.



mdpi.com/si/200973

Special Issue



gels



an Open Access Journal by MDPI

Editors-in-Chief

Prof. Dr. Esmail Jabbari

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

Prof. Dr. Chuanliang Feng

State Key Lab of Metal Matrix Composites, School of Materials Science and Engineering, Shanghai Jiao Tong University, Shanghai 200240, China

Message from the Editorial Board

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.

Author Benefits

Open Access: free for readers, with [article processing charges \(APC\)](#) paid by authors or their institutions.

High visibility: indexed within [Scopus](#), [SCIE \(Web of Science\)](#), [PubMed](#), [PMC](#), [CAPlus / SciFinder](#), and [other databases](#).

Journal Rank: JCR - Q1 (Polymer Science) / CiteScore - Q1 (Organic Chemistry)

Contact Us

Gels Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/gels
gels@mdpi.com
[X@Gels_MDPI](https://twitter.com/Gels_MDPI)