

## Special Issue

# Functionalized Hydrogels: Biomimetic Design, Adhesion Mechanisms and Biomedical Applications

### Message from the Guest Editor

Functionalized hydrogels represent a cutting-edge class of biomaterials designed to mimic natural biological systems, offering remarkable properties such as tunable mechanics, biocompatibility, and multifunctionality.

This Special Issue, “Functionalized Hydrogels: Biomimetic Design, Adhesion Mechanisms and Biomedical Applications”, will explore the latest advancements in biomimetic design strategies. It will focus on adhesion mechanisms, including physical (e.g., hydrogen bonds and electrostatic forces) and chemical (e.g., catechol-based, Schiff base, and enzyme-mediated crosslinking) interactions, enabling robust and adaptable bioadhesion for diverse applications.

We invite the submission of original research and reviews on novel hydrogel functionalization techniques, mechanistic studies, and translational developments. By fostering interdisciplinary collaboration, this Special Issue aims to accelerate the transition of functionalized hydrogels from lab-scale breakthroughs to real-world medical solutions.

---

### Guest Editor

Dr. Chao Zhou

School of Medical and Health Engineering, Changzhou University,  
Changzhou 213164, China

---

### Deadline for manuscript submissions

30 June 2026



## Gels

---

an Open Access Journal  
by MDPI

---

Impact Factor 5.3  
CiteScore 7.6  
Indexed in PubMed



[mdpi.com/si/246100](https://mdpi.com/si/246100)

*Gels*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[gels@mdpi.com](mailto:gels@mdpi.com)

[mdpi.com/journal/  
gels](https://mdpi.com/journal/gels)





# Gels

---

an Open Access Journal  
by MDPI

---

Impact Factor 5.3  
CiteScore 7.6  
Indexed in PubMed



[mdpi.com/journal/  
gels](https://mdpi.com/journal/gels)



## About the Journal

### 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.

---

### 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

---

### Author Benefits

#### High visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, CAPIus / SciFinder, and other databases.

#### Journal Rank:

JCR - Q1 (Polymer Science) / CiteScore - Q1 (Organic Chemistry)

#### Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 13.5 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the second half of 2025).