



*gels*



an Open Access Journal by MDPI

## Recent Advances in Double Network Gels

Guest Editors:

**Dr. Hai Lei**

Collaborative Innovation Center of Advanced Microstructures, National Laboratory of Solid State Microstructure, Department of Physics, Nanjing University, Nanjing 210093, China

**Prof. Dr. Yi Cao**

Deadline for manuscript submissions:  
**closed (31 October 2023)**

### Message from the Guest Editors

Dear Colleagues,

Hydrogels contain large amounts of water, making them useful in biomaterial applications. However, their inherent softness prevents their direct use in load-bearing applications. By incorporating toughening mechanisms through the double-network concept, the mechanical properties of hydrogels have been greatly improved.

We organize this Special Issue on “Recent Advances in Double-Network Gels” with the aim of summarizing the recent achievements in the toughening mechanism design, theoretical model research, functionalization and potential applications of double-network gels. We look forward to the submission of new results and reviews associated with double-network gels from experimental and theoretical perspectives.

Dr. Hai Lei  
Dr. Yi Cao  
Guest Editors



[mdpi.com/si/136972](https://mdpi.com/si/136972)

**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](http://www.mdpi.com)

[mdpi.com/journal/gels](http://mdpi.com/journal/gels)  
[gels@mdpi.com](mailto:gels@mdpi.com)  
[X@Gels\\_MDPI](#)