Special Issue

Biomimetic Hydrogels

Message from the Guest Editors

This Special Issue, entitled 'Biomimetic Hydrogels', is devoted to recent advancements in the field of hydrogels which address the challenge of reproducing the chemical, mechanical and physical properties of the physiological environment. The 3D environment accommodates and directs cell behaviour in our body. On the epithelium, mucin forms a mucus gel that lubricates the moist epithelium and provides protection from irritants and infection. A biomedical approach allows us to synthesise hydrogels that mimic the nature of our bodies and mimic their properties, including mechanical, structural, and compositional factors, alone or in concert, which can dramatically regulate cell behaviour and alter cell function. This Special Issue focuses on the design of such biomimetic hydrogels by controlling their synthesis and characterisation, including theoretical and fundamental aspects. Their physicochemical properties can be influenced by the choice of polymer and crosslinking chemistry, among other factors. Many new technologies such as rheology, tribology, diverse microscopy techniques and sensors are needed and developed for the characterisation of hydrogels.

Guest Editors

Dr. Hongji Yan

Dr. Hongya Geng

Prof. Dr. Håvard J. Haugen

Dr. Paola Petrini

Deadline for manuscript submissions

closed (31 January 2024)

Gels

an Open Access Journal by MDPI

Impact Factor 5.3
CiteScore 7.6
Indexed in PubMed

mdpi.com/si/130305

Gels
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
gels@mdpi.com

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

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.

Editor-in-Chief

Prof. Dr. Esmaiel Jabbari
Biomimetic Materials and Tissue Engineering Laboratory, Department of Chemical Engineering, University of South Carolina, Columbia, SC 29208, USA

Author Benefits

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)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 12.5 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).

MDPI