

Special Issue

Next-Generation Hydrogel Platforms: From Synthesis Strategies to Advanced Applications

Message from the Guest Editor

This Special Issue aims to explore innovative approaches in the design, synthesis, and application of advanced hydrogel systems. As hydrogels continue to evolve beyond conventional networks, novel synthesis strategies and fabrication techniques have enabled unprecedented control over their properties, expanding their potential across numerous fields. This Special Issue will encompass a wide range of topics, including cutting-edge synthesis methods, structure–property relationships, stimuli-responsive behaviors, and emerging applications spanning biomedical, environmental, energy, and sensing domains.

Contributions will highlight recent advancements in precision hydrogel engineering, including dynamic and adaptable networks, multi-component systems, reinforced architectures, and nanoscale manipulation. We invite researchers from academia and industry to submit original research articles and reviews that showcase innovative synthesis approaches and demonstrate how these next-generation hydrogels can address current challenges and unlock new possibilities.

Guest Editor

Dr. Hyun Jong Lee

Department of Chemical, Biological and Battery Engineering, Gachon University, Seongnam-si 13120, Gyeonggi-do, Republic of Korea

Deadline for manuscript submissions

30 November 2025



Polymers

an Open Access Journal
by MDPI

Impact Factor 4.9
CiteScore 9.7
Indexed in PubMed



mdpi.com/si/237550

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

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





Polymers

an Open Access Journal
by MDPI

Impact Factor 4.9
CiteScore 9.7
Indexed in PubMed



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



About the Journal

Message from the Editor-in-Chief

Since its foundation in 2009, *Polymers* has developed into an internationally renowned, extremely successful open access journal. The editorial team and the editorial board dedicatedly combine open-access publishing and high-quality rigorous peer reviewing. The performance of the journal has proven this strategy to be well-suited and highly successful. This is reflected in the increasing impact factor of *Polymers*, the most recent one being 4.7.

I would like to invite you to contribute to the success of the journal by sending us your high quality research papers. We would be pleased to welcome you as one of our authors.

Editor-in-Chief

Prof. Dr. Alexander Böker

Lehrstuhl für Polymermaterialien und Polymertechnologie, University of Potsdam, 14476 Potsdam-Golm, Germany

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), Ei Compendex, PubMed, PMC, FSTA, CAPlus / SciFinder, Inspec, and other databases.

Journal Rank:

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