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

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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 4.9.

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
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