Special Issue

Recent Advances in Gel Polymer Electrolytes

Message from the Guest Editors

This Special Issue explores a variety of topics, including the development of innovative polymer matrices, hybrid systems combining nanomaterials or ionic liquids, and new methods to improve ionic conductivity and thermal stability. Applications covered range from lithium-ion and sodium-ion batteries to emerging technologies like lithium–sulfur batteries, solid-state systems, and flexible or wearable energy devices. In addition, mechanistic studies on ion transport and polymer interactions provide valuable insights into the behavior of these materials. The Special Issue invites submissions that include original research, comprehensive reviews, and perspectives on topics such as material design, device integration, modeling, and sustainable approaches.

- gel polymer electrolytes
- energy storage
- lithium-ion batteries
- ionic conductivity
- polymer materials
- sustainable energy systems

Guest Editors

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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.

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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).

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