

Special Issue

Research and Applications of Supercapacitors

Message from the Guest Editors

Supercapacitors, recognized for their high power density, rapid charge–discharge capabilities, and extended cycle life, have become a focal point of research and development in the field of energy storage. Relevant topics for this Special Issue are as follows: in-depth exploration of the working principles of supercapacitors, including their charge–discharge mechanisms and energy storage processes; analysis of key performance indicators that affect supercapacitor performance; introduction to advancements in electrode materials such as novel carbon-based materials, metal oxides, and conductive polymers; electrolyte research focusing on enhancing ionic conductivity and voltage stability; discussion on the latest developments in both liquid and solid electrolytes and their impact on supercapacitor performance; examination of integration techniques of supercapacitors with other energy storage devices, for more efficient energy management systems; and innovative designs. This Special Issue aims to provide researchers, engineers, and policymakers with a comprehensive view of the latest advancements and potential applications of supercapacitor technology.

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Deadline for manuscript submissions

10 October 2025



Crystals

an Open Access Journal
by MDPI

Impact Factor 2.4
CiteScore 5.0



mdpi.com/si/228843

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Message from the Editor-in-Chief

Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

Editor-in-Chief

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