

## Special Issue

# Advances in Materials for Energy Conversion and Storage

### Message from the Guest Editors

This Special Issue will focus on the latest breakthroughs in materials that can enhance the performance of solar cells, fuel cells, batteries, supercapacitors, and other energy-related technologies.

Potential topics include, but are not limited to, the following:

- Materials for next-generation batteries, including lithium-ion, sodium-ion, etc.;
- Challenges to developing materials for the transport and storage of hydrogen;
- Novel materials for photovoltaic applications and their synthesis methods;
- Advanced materials and technologies for supercapacitors;
- Advanced catalysts for fuel cell reactions and their optimization;
- Advanced materials for carbon dioxide capture and utilization;
- Nanomaterials and their role in improving energy storage capacity and efficiency;
- Smart materials that respond to environmental stimuli for energy management;
- Theoretical studies of electrochemical energy conversion and storage;
- Computational materials science and its impact on the discovery of new energy materials.

### Guest Editors

Dr. Palanisamy Rajkumar  
Dr. Vedyappan Thirumal  
Dr. Asaithambi Sankaiya

### Deadline for manuscript submissions

closed (20 August 2025)



## Crystals

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*Crystals*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[crystals@mdpi.com](mailto:crystals@mdpi.com)

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## About the Journal

### 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.

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### Editor-in-Chief

Prof. Dr. Alessandra Toncelli

Department of Physics, University of Pisa, 56126 Pisa, PI, Italy

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