

## Special Issue

# Crystalline Materials in Electrochemistry

### Message from the Guest Editors

We are pleased to announce this Special Issue, which aims to highlight recent advancements in the design, synthesis, characterization, and application of crystalline electrode materials across various electrochemical systems.

We invite contributions that cover, but are not limited to, the following topics:

Novel Crystalline Electrode Materials:

- Advances in crystalline organics, oxides, sulfides, phosphates, and hybrid materials.
- Metal–organic frameworks, covalent organic frameworks, layered Electrochemical Applications:
- Batteries (lithium-ion, sodium-ion, aqueous, solid-state, etc.).
- Supercapacitors and hybrid energy storage systems.
- Electrocatalysis for water splitting, CO<sub>2</sub> reduction, and fuel cells.

Structure–Performance Relationships:

- In situ/operando characterization techniques to probe crystallinity effects.
- Theoretical modeling and computational insights into ion diffusion and charge storage.
- Mechanistic studies on structural evolution during cycling.

Synthesis and Processing Techniques:

- Scalable and sustainable synthesis strategies.
- Crystallographic tuning for enhanced conductivity and stability.
- Interface engineering for improved electrochemical kinetics.

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### Guest Editors

Dr. Weiqiang Lv

Dr. Zhixiao Xu

Dr. Wenjing Deng

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### Deadline for manuscript submissions

31 August 2025



## Crystals

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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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#### Journal Rank:

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