Special Issue

Development of Devices for Electrochemical Energy Storage and Generation

Message from the Guest Editor

Energy availability and efficient storage are crucial for technological advancement, influencing everything from renewable integration to portable electronics. Politically, energy security has shaped global economies and policies, driving innovation in cost-effective and high-performance storage solutions. Advances in energy production through solar, hydroelectric, wind, and electrochemical or photoelectrochemical water splitting must be matched by equally effective energy storage technologies. This special issue highlights cutting-edge strategies for designing and developing affordable yet high-performance electrochemical energy storage devices. We invite original, high-quality research emphasizing long-term stability, cycling durability, and optimized energy density. The topics covered in this issue are broad. Some examples are:

- Fundamentals of electrochemical energy storage
- Battery technologies
- Capacitors and hybrid storage devices
- Hydrogen energy storage
- Electrode and electrolyte materials
- Performance metrics and testing
- Advanced characterization techniques
- Manufacturing and scalability
- Emerging trends and future directions

Guest Editor

Dr. Maziar Jafari

Department of Chemistry and Biochemistry, Université du Québec à Montréal, Montréal, QC H3C 3P8, Canada

Deadline for manuscript submissions

26 June 2026

ChemEngineering

an Open Access Journal by MDPI

Impact Factor 3.4
CiteScore 4.9

mdpi.com/si/237597

ChemEngineering
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
chemengineering@mdpi.com

mdpi.com/journal/ChemEngineering

ChemEngineering

an Open Access Journal by MDPI

Impact Factor 3.4
CiteScore 4.9

mdpi.com/journal/ChemEngineering

About the Journal

Message from the Editor-in-Chief

Editor-in-Chief

Prof. Dr. Mario J. Muñoz Batista
Department of Chemical Engineering, Faculty of Sciences, University of Granada, Avda. Fuentenueva, s/n, 18071 Granada, Spain

Author Benefits

High Visibility:

indexed within Scopus, ESCI (Web of Science), Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Chemical) / CiteScore - Q1 (General Engineering)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 29.6 days after submission; acceptance to publication is undertaken in 5.7 days (median values for papers published in this journal in the first half of 2025).