

## Special Issue

# Rechargeable Lithium-Sulfur Battery: Present and Future

### Message from the Guest Editor

Lithium-sulfur (Li-S) batteries are considered one of the most promising next-generation energy storage devices because of their high theoretical energy density, and also because of the easy availability of sulfur. There has been significant progress in recent years in addressing the intrinsic issues that have prevented the widespread use of Li-S batteries, including (a) the insulating nature of sulfur which leads to poor utilization of the active material; (b) formation of high-order soluble polysulfides which leads to polysulfide shuttling and the inevitable capacity fading; and (c) growth of the parasitic Li dendrites, which raises safety concerns. Replacing the liquid electrolyte with the solid electrolyte is expected to improve the safety and cycle stability of lithium-sulfur batteries. The performance and application of solid state Li-S batteries are limited by their low capacity, poor rate performance, and unsatisfied cycle life, which need to be overcome by advances in technology. This Special Edition will present the current status of Li-S batteries...

### Guest Editor

Prof. Dr. Wonbong Choi

Department of Materials Science & Engineering, Mechanical Engineering, University of North Texas, Denton, TX 76203-5017, USA

### Deadline for manuscript submissions

closed (2 October 2021)



## Batteries

an Open Access Journal  
by MDPI

Impact Factor 4.8  
CiteScore 6.6



[mdpi.com/si/59602](https://mdpi.com/si/59602)

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

[mdpi.com/journal/  
batteries](https://mdpi.com/journal/batteries)





# Batteries

---

an Open Access Journal  
by MDPI

---

Impact Factor 4.8  
CiteScore 6.6



[mdpi.com/journal/  
batteries](https://mdpi.com/journal/batteries)



## About the Journal

### Message from the Editor-in-Chief

Take the opportunity to publish your original scientific work or a review paper concerning battery materials, battery technology or battery application within this new open access journal. Along with material science, the journal also addresses engineering and multidisciplinary research topics, such as cell and system design or storage system integration. Publishing proffers visibility for the benefit of other experts and facilitates discussion of the research results within the field. You are invited to publish your work, read published papers and to participate in topical discussions.

---

### Editor-in-Chief

Prof. Dr. Karim Zaghib

Department of Chemical and Materials Engineering, Concordia  
University, Montréal, QC H3G 1M8, Canada

---

### Author Benefits

#### Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

#### High Visibility:

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

#### Journal Rank:

JCR - Q2 (Electrochemistry) / CiteScore - Q1 (Electrical and Electronic Engineering)