



## Recent Progress of Flow Battery

Guest Editor:

**Prof. Dr. Puiki Leung**

School of Energy and Power  
Engineering, Chongqing  
University, Chongqing 400044,  
China

Deadline for manuscript  
submissions:

**closed (15 May 2025)**

### Message from the Guest Editor

Redox flow battery (RFB) is one of the most promising technologies for grid-scale stationary energy storage, due to its design flexibility in decoupling power and energy, long life-time, high safety, and low environmental impact. In recent years, this technology has received significant attention and successfully been scaled up to MW scale. To ensure effective market penetration, new chemistries based on low-cost materials or with improved energy densities have recently been introduced in aqueous and non-aqueous electrolytes. This Special Issue will focus on the latest advances and prospects of current and future flow battery systems, covering key topics in new chemistries, functional materials, engineering, cost/market and computational modelling.

Topics of interest include, but are not limited to:

Redox couples/battery chemistries;

Functional materials (e.g., electrodes and membranes);

Engineering (e.g., scale-up, new cell structures/designs);

Mass transport phenomena;

Operations (diagnostics and management);

Cost and market (e.g., life-cycle assessments);

Modelling and simulations (e.g., multi-physics models, first-principles calculations).





an Open Access Journal by MDPI

## Editor-in-Chief

### **Prof. Dr. Karim Zaghib**

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

## 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.

## 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)

## Contact Us

---

*Batteries* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/batteries](http://mdpi.com/journal/batteries)  
[batteries@mdpi.com](mailto:batteries@mdpi.com)  
[X@batteriesmdpi](https://twitter.com/batteriesmdpi)