

Special Issue

Recent Progress of Flow Battery

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).

Guest Editor

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