Special Issue

Redox Flow Batteries: Developments and Applications

Message from the Guest Editors

Redox flow batteries (RFBs) have shown huge promise for large amounts of electrical energy stored for several applications.However, this technology currently displays some drawbacks, such as low energy density and high cost, in comparison with conventional batteries. While current RFB technologies use metal-redox species (all-vanadium, iron, copper, zinc–air, among others), next-generation RFBs are being developed in the form of, for example, organic redox flow batteries or semi-solid flow slurries.

Due to the interdisciplinary character of this research topic, this Special Issue invites papers on (but not limited to): electrochemistry of battery; material science, including active and passive components; membrane physicochemistry; state of charge diagnostics; transport phenomena; safety and reliability of the operation; lifetime and degradation; thermal management; battery performance, testing and monitoring; stack technology; hybrid battery systems; applications in real environments; costs and market; modeling and simulation.

Guest Editors

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Message from the Editor-in-Chief

As the premier open access journal dedicated to experimental organic chemistry, and now in its 25th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts and novel materials. Pushing the boundaries of the discipline, we invite papers on multidisciplinary topics bridging biochemistry, biophysics and materials science, as well as timely reviews and topical issues on cutting edge fields in all these areas.

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