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Special Issue on 2D Materials for Electrochemical Energy Storage and Conversion

Electrochemical energy storage and conversion are currently one of the most critical challenges due to increasing energy demand. Therefore, discovering novel materials to develop low-cost and more efficient energy storage technologies is urgently necessary. Among various novel materials, two-dimensional (2D) materials have attracted intensive research activities in multiple fields due to their fascinating physical and chemical properties. 2D materials that have a higher surface-to-volume ratio are beneficial to developing low-cost and large-scale energy storage systems for practical applications. There have been many promising concepts of 2D materials based on real-life energy applications recently in batteries, supercapacitors, fuel cells, solar cells, thermoelectric, triboelectric generators, etc.

Despite recent progress, significant efforts are still needed to investigate the fundamentals of 2D materials for electrochemical energy storage and conversion. In this Special Issue, original research articles, reviews, mini-reviews, and perspectives are welcome from multiple disciplines.

Topic Areas

Research areas may include (but are not limited to) the following:

- Design, synthesis, and characterization of novel 2D materials for electrochemical energy storage and conversion
- Theoretical and computational modeling of 2D materials for energy storage and conversion
- Novel 2D materials for excellent batteries and supercapacitors
- Efficient 2D materials and mechanisms of hydrogen storage applications
- 2D materials for fuel cell applications

Keywords: 2D materials, electrochemical energy storage, supercapacitors, conversion, hydrogen storage, fuel cells

Publication Target Dates

Open to submissions	April 1, 2022
Paper submission deadline	August 30, 2022
1st reviews completed	September 30, 2022
Final manuscripts submitted	December 30, 2022
Special Issue publication date	May 2023

Submission Instructions

Papers should be submitted electronically to the journal at journaltool.asme.org. If you already have an account, log in as author and select **Submit Paper** at the bottom of the page. If you do not have an account, select **Submissions** and follow the steps. In either case, at the **Paper Submittal** page, select the [ASME Journal of Electrochemical Energy Conversion and Storage](#) and then select the Special Issue **2D Materials for Electrochemical Energy Storage and Conversion**.

Papers received after the deadline or papers not selected for inclusion in the Special Issue may be accepted for publication in a regular issue.

Guest Editors

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