Special Issue

Revolutionizing Energy Storage: Innovations in AI-Driven Battery Technologies

Message from the Guest Editors

In the past few years, there has been a rapid shift toward renewable energy sources in our daily lives. As a result, the demand for efficient and reliable energy storage systems, particularly batteries, in order to maintain a stable and continuous energy supply has become critical. Current research in batteries technologies includes, but is not limited to, lithium-ion batteries, sodium-ion batteries, and flow batteries, with each offering its own set of advantages and disadvantages. Furthermore, rapid progress in artificial intelligence (AI) has yielded significant contributions in the advancement of battery technologies, including smart monitoring, predictive maintenance, new material discovery and testing, and the optimization of battery performance. Papers on the latest results and recent advancements in AI technologies in battery technologies are encouraged. Potential topics may include, but are not limited to, the following:

- Battery health monitoring and state estimation;
- Predictive maintenance and fault diagnosis;
- Battery performance optimization;
- Battery material discovery and design;
- Smart battery management systems;
- Battery recycling and end-of-life management.

Guest Editors

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Deadline for manuscript submissions

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Technologies, provides a single focus for reporting on developments of all technologies, regardless of their application. It is our intention that *Technologies* becomes the journal of choice for both researchers wanting to publish their work and technologists wishing to exploit the high quality research across a wide range of potential applications. Through its open access policy, its quick publication cycle, *Technologies* will facilitate the rapid uptake and development of the research presented, ultimately providing benefit to the wider society.

Editor-in-Chief

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