Special Issue

Artificial Intelligence and Batteries: AI-Powered Innovations in Battery Technology

Message from the Guest Editors

Artificial intelligence (AI) techniques, including machine learning, neural networks, and optimization algorithms, are being leveraged to address key challenges in battery technology, and this Special Issue explores the intersection of AI and batteries, aiming to enhance battery performance, lifespan, and safety. By integrating AI, advancements are made in battery efficiency, charging strategies, and energy storage applications across various sectors, including electric vehicles, renewable energy systems, and portable electronics. Topics of interest for this Special Issue include, but are not limited to: Advances in AI and battery research and applications; Artificial intelligence in battery management and control; Advanced battery state estimation: state-of-charge (SOH), state-of-health (SOH), state-of-power (SOP), state-of-function (SOF), remaining discharge energy (RDE), degradation; Battery diagnostic and prognostic functions; Advances in battery system thermal management.

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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.

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