Special Issue

Lithium-Ion Batteries: Manufacturing Innovation, Materials Processing, Degradation Modes and Performance Prediction

Message from the Guest Editors

The Special Issue on 'Lithium-Ion Batteries: Manufacturing Innovation, Materials Processing, Degradation Modes and Performance Prediction' aims to highlight the latest advances in battery science and technology. It brings together research focused on innovative manufacturing methods, novel materials development, and improved approaches for predicting performance failures and degradation mechanisms. As the global demand for efficient and sustainable energy storage continues to grow, lithium-ion battery research has taken centre stage, driving both academic inquiry and industrial application. This Special Issue serves as a multidisciplinary platform that bridges fundamental studies with practical industrialisation strategies. By integrating perspectives from chemistry, materials science, engineering, and data-driven modelling, it provides a unique opportunity for researchers, engineers, and industry experts to share novel findings and exchange ideas. The collection seeks to collaborate and accelerate the development of next-generation lithium-ion batteries that can meet the challenges of reliability, scalability, and sustainability.

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