Special Issue

Future Smart Battery Management Systems

Message from the Guest Editor

Besides progress in battery cell manufacturing, complementary technologies must be developed and enhanced to adapt to new battery requirements so that one can use batteries to their full advantage. One such technology is the battery management system or BMS, which is responsible for monitoring, controlling, and protecting batteries. The BMS estimates a battery's status and its dynamic operating limits and uses this information to operate the battery within a safe and optimum operating window. BMS performance crucially affects the driving range, lifetime, and safety of electric cars. Thus, it is important to use best-in-class hardware and software algorithms to achieve a higher performance. This Special Issue focuses on the topic of smart BMSs to enable improved battery performance, safety, and resiliency through smart functionalities, such as using artificial intelligence for state-of-X estimation, smart thermal management strategies, and reconfigurable and fault-tolerant topologies.

Guest Editor

Dr. Farshid Naseri
AAU Energy, Aalborg University, Pontoppidanstræde 111, 1-110, 9220 Aalborg Ø, Danmark

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Batteries
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
batteries@mdpi.com

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Editor-in-Chief

Prof. Dr. Karim Zaghib
Department of Chemical and Materials Engineering, Concordia University, Montréal, QC H3G 1M8, Canada

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