Special Issue

Beyond Conventional Lithium-Ion Battery Cathode Materials

Message from the Guest Editor

Lithium-ion batteries, which have undergone several generations of material and technique improvements, are now extensively used and dominate the rechargeable battery market. The cathode, which largely determines the energy density and dominates the cost of a battery, is becoming a key factor defining next-generation LIBs. Despite significant efforts by researchers and industries worldwide to maximize the battery performance, conventional intercalation-based cathode materials (i.e., LCO, NCM, and LFP) are increasingly unable to keep up with the rapidly growing demands of future energy technologies. The complexity of this challenge is multidimensional and multidisciplinary. However, innovative breakthroughs beyond the conventional battery cathode materials and technologies are on the horizon, with the goal of providing higher energy density, cost-effectiveness, and better safety and cyclability simultaneously. Therefore, this Special Issue aims to showcase manuscripts focusing on the emerging new generation LIB cathode materials and technologies beyond the conventional battery system.

Guest Editor

Dr. Rui Zhang

Institute of New Energy Materials, School of Materials Science and Engineering, Tianjin University, Tianjin 300350, China

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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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