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Advanced Design and Synthesis of Electrode Materials

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

The increasing demand for energy and the electrification of mobility in modern society have increased the demand for higher energy density, power density, and safety standards as well as lower costs. Consequently, lithium ion batteries, ubiquitously applied from portable electronics to transportation or grid storage applications, now do not meet the requirements for many applications.

Moreover, the low abundance and uneven distribution of lithium sources are increasing the cost of lithium-based technologies. In order to overcome these challenges and achieve higher power and energy densities, novel electrode architectures have been proposed to enhance the cycling performance of electroactive materials, rate capabilities, and electrode–electrolyte interactions, among other.

This Special Issue aims to present recent advances in the design and synthesis of nanoarchitected electrode materials, focusing on novel chemistries and nanostructuration strategies applied to positive or negative electroactive materials for metal-ion batteries and capacitors and metal-air and lithium-sulfur batteries.

Prof. Juan Luis Gómez-Cámer
Guest Editor



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Special Issue



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Message from the Editor-in-Chief

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