

Special Issue

Improvements and Advanced Characterizations of Silicon-Based Anode Materials

Message from the Guest Editor

Lithium-ion batteries (LIBs) are a very popular rechargeable battery technology, but graphite, their traditional anode material, has limited specific capacity and is not able to meet the market demands. Silicon is an attractive alternative to graphite, given its high values of specific capacity and volume capacity. Moreover, its relatively low working potential and natural abundance make it a promising candidate for LIB anodes. However, its significant volume expansion upon lithiation makes it difficult to utilize in practical lithium batteries. Other issues which need to be addressed are silicon's poor life cycle and its production through a solid electrolyte interphase. This Special Issue is aimed at collecting papers on silicon-based anode materials, with a special focus on their synthesis and characterization.

Guest Editor

Dr. Tiziana Musso

Department of Material Science and Engineering, UNSW Sydney, Kensington 2052, Australia

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MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

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