



## Advanced Design and Synthesis of Electrode Materials

Guest Editor:

**Prof. Dr. Juan Luis Gómez-Cámer**

Department of Inorganic  
Chemistry and Chemical  
Engineering, University of  
Córdoba, 14071 Córdoba, Spain

Deadline for manuscript  
submissions:

**closed (30 September 2021)**

### 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 nanostructuring 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*





an Open Access Journal by MDPI

## 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

## 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.

## Author Benefits

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

**Journal Rank:** JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Condensed Matter Physics)

## Contact Us

Materials Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/materials](http://mdpi.com/journal/materials)  
[materials@mdpi.com](mailto:materials@mdpi.com)  
[X@Materials\\_Mdpi](https://twitter.com/Materials_Mdpi)