



*materials*



an Open Access Journal by MDPI

## Nano-based Catalysts for Renewable Energy

Guest Editors:

### **Dr. Michal Bajdich**

SUNCAT Center for Interface Science and Catalysis, Chemical Engineering, Stanford University, Stanford, California 94305, and SLAC National Accelerator Laboratory, 2575 Sand Hill Road, Menlo Park, California 94025, USA

### **Dr. Max Garcia-Melchor**

School of Chemistry, Trinity College Dublin, College Green, Dublin 2, Ireland

Deadline for manuscript submissions:

**closed (28 February 2019)**

### **Message from the Guest Editors**

Meeting the global energy demand in a clean, reliable and economically affordable way is one of the biggest challenges of this century. Particularly challenging is to find sustainable alternatives to fossil fuels by utilizing solar energy, water and CO<sub>2</sub>, where active, selective, stable and yet economic catalysts are needed. Although significant advances have been made in this field, there is still room for improvement by engineering nanomaterials with enhanced catalytic performance.

This Special Issue aims at covering research on promising nano-based catalysts with potential applications to renewable energy and the fundamental understanding of chemical processes related to renewable energy. This includes (but is not limited to) the most interesting aspects of nanostructuring of catalysts such as reaction confinement, creation of uncoordinated edge sites in nano-objects, and single site catalysts. We are especially interested in original research that shows: i) the electrocatalytic performance of nano-based catalysts, ii) the availability of active sites with potential to break existing scaling relations, or iii) examples where the structure and activity have been well resolved.



[mdpi.com/si/12028](https://mdpi.com/si/12028)

**Special** issue



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 - Q1 (Metallurgy and Metallurgical Engineering) / CiteScore - Q2 (*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)