Special Issue

Advanced Catalytic Materials for Carbon Dioxide Reduction

Message from the Guest Editors

To mitigate current environmental issues and climate changes caused by the over-emission of carbon dioxide, the traditional energy systems relying on non-reproducible fuels need to be re-envisioned. Converting carbon dioxide to value-added chemicals in an electrolyzer presents one promising avenue toward a carbon net-zero future. At the current stages, however, the CO2 reduction reactions (CO2RR) still face significant challenges, such as the unsatisfactory product selectivity, low energy efficiency, long-term stability, etc., hindering the industrialization and large-scale application of CO2RR techniques. The aim of this Special Issue of *Materials* is to present a comprehensive range of topics that advance the CO2RR-related techniques by enhancing the fundamental understanding of materials science. Research focusing on novel catalyst design, synthesis, and characterization and the integration of materials into practical CO2 conversion systems is of interest. Submissions addressing other pivotal components, such as membranes, electrolytes, anodes, etc., are also encouraged.

Guest Editors

Dr. Meng-Nan Zhu

Department of Chemical Engineering, McMaster University, 1280 Main St W, Hamilton, ON L8S 4L8, Canada

Dr. Meng Li

Energy and Environment Science and Technology, Idaho National Laboratory, Idaho Falls, ID, USA

Deadline for manuscript submissions

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Materials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
materials@mdpi.com

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Message from the Editorial Board

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.

Editors-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

Prof. Dr. Yuguang Ma
State Key Laboratory of Luminescent Materials and Devices, South China University of Technology, Guangzhou 510640, China

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