Special Issue

Advanced Materials for Electrochemical Energy Conversion and Storage - Volume II

Message from the Guest Editors

Electrochemical energy conversion and storage is a promising solution to overcome the drawbacks and limitations of existing fossil-fuel-based technologies. The development of electrochemical energy conversion and storage devices has three directions: the development of batteries, the development of capacitors, and the development of fuel cells. Batteries are finding wide applications in portable devices, including laptops, phones, and cameras. Supercapacitors can accept and deliver charges at a much faster rate than batteries for many charge/discharge cycles. Fuel cells provide efficient and clean continuous power generation for both stationary and portable devices. Though these technologies show potential to reduce climate change problems caused by fossil fuels, issues related to electrode efficiency, membrane costs, and electrolyte stability still limit their widespread commercialisation. The development of new, improved electrocatalytic materials for the electrode reactions in these devices is expected to have great impact on device performance and, consequently, their commercialisation.

Guest Editors

Dr. Diogo M.F. Santos

Center of Physics and Engineering of Advanced Materials (CeFEMA), Instituto Superior Técnico, Universidade de Lisboa, 1049-001 Lisbon, Portugal

Dr. Biljana Šljukić

Laboratory for Physics of Materials and Emerging Technologies, Chemical Engineering Department, Instituto Superior Técnico, Universidade de Lisboa, Av. Rovisco Pais, 1049-001 Lisboa, Portugal

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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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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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