Special Issue

Solid-State Electrochemical Devices: Materials, Technologies and Applications

Message from the Guest Editors

These programs include the development of new materials, technologies and devices, such as solid oxide fuel cells and electrolytic cells, for the effective usage of hydrogen as a key energy carrier, as well as for pure hydrogen production by high-temperature water electrolysis. Experience shows that the hydrogen energy technologies, particularly solid oxide fuel cells and electrolytic cells, are efficient with alternative types of fuel (alkanes, alcohol, etc.); these devices may be used for the production of syngas using high-temperature electrolysis. This Special Issue intends to cover the most recent advances in the development, production and application of solid oxide fuel elements, electrolytic cells and SOFC-based devices. Topics may include, but are not limited to:

- Electrode and electrolyte materials;
- Interconnect materials;
- Sealants;
- SOFC and SOEC design;
- Technologies for material manufacturing and processing;
- Characteristics of SOFCs and SOECs, including longterm tests;
- Successes in the application of SOFCs and SOECs.

Guest Editors

Prof. Dr. Yury Zaikov

Electrolysis Section, Institute of High Temperature Electrochemistry, Ural Branch of the Russian Academy of Sciences, Ekaterinburg 620990, Russia

Dr. Mikhail Erpalov

Laboratory of Electrochemical Devices and Fuel Cells, Institute of High Temperature Electrochemistry, Ural Branch of the Russian Academy of Sciences, Ekaterinburg 620990, Russia

Deadline for manuscript submissions

closed (31 May 2024)



Processes

an Open Access Journal by MDPI

Impact Factor 2.8 CiteScore 5.1



mdpi.com/si/173315

Processes MDPI, Grosspeteranlage 5 4052 Basel, Switzerland Tel: +41 61 683 77 34 processes@mdpi.com

mdpi.com/journal/

processes





Processes

an Open Access Journal by MDPI

Impact Factor 2.8 CiteScore 5.1



processes



About the Journal

Message from the Editor-in-Chief

You are invited to contribute either a research article or a comprehensive review for consideration and publication in *Processes* (ISSN 2227-9717). *Processes* is published in open access format – research articles, reviews, and other content are released on the internet immediately after acceptance. The scientific community and the general public have unlimited, free access to the content. As an open access journal, *Processes* is supported by the authors and their institutes through the payment of article processing charges (APCs) for accepted papers. We would be pleased to welcome you as one of our authors.

Editor-in-Chief

Prof. Dr. Giancarlo Cravotto

Department of Drug Science and Technology, University of Turin, Via P. Giuria 9, 10125 Turin, Italy

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), Ei Compendex, Inspec, AGRIS, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Chemical) / CiteScore - Q2 (Chemical Engineering (miscellaneous))