



Study on Chemical Heat Storage Materials and Heat Storage System

Guest Editors:

Prof. Dr. Qinpei Wu

School of Chemistry and
Chemical Engineering, Beijing
Institute of Technology, Beijing
102488, China

Prof. Dr. Xianglei Liu

School of Energy and Power
Engineering, Nanjing University
of Aeronautics and Astronautics,
Nanjing 120016, China

Deadline for manuscript
submissions:

closed (20 January 2024)

Message from the Guest Editors

Thermal storage with molten salts has been used in solar thermal power for decades. Recently, chemical-heat storage (CHS) has attracted increasing attention. This significant interest can be attributed to the enormous demand for renewable energy and the specific advantages of this technology, which include long-term storage with negligible losses, upgrading thermal energy, and a high density of energy.

CHS conducts heat storage and release via a reversible thermochemical reaction. This concerns materials (chemicals) and thermodynamics and kinetics of the reaction. The low kinetics of this process is one of the main obstacles for practical CHS. To enhance CHS efficiency, investigations include materials, reactors, catalysis, chemical process, and heat exchangers.

The main goal of the Special Issue is to highlight original research articles and review papers concerning CHS materials, CHS system, and thermal-energy managements. Submissions focus on CHS in the following subjects:

- Chemical-heat storage materials;
- Chemical-heat storage processes;
- Hybrid chemical-heat storage;
- Thermal storage management;
- Solar chemical-heat storage;
- Catalysis;
- Reactors.





an Open Access Journal by MDPI

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

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.

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

mdpi.com/journal/materials
materials@mdpi.com
[X@Materials_Mdpi](https://twitter.com/Materials_Mdpi)