materials

IMPACT FACTOR 3.4 | Indexed in: PubMed | CITESCORE 5.2

an Open Access Journal by MDPI

In-Situ Preparation of High-Performance Materials

Guest Editor:

Prof. Dr. Shaowei Zhang
College of Engineering, Mathematics and Physical Sciences, University of Exeter, Exeter, UK

Deadline for manuscript submissions:
closed (20 May 2022)

Message from the Guest Editor

Dear Colleagues,

Compared with conventional ex-situ processing techniques, in-situ processing techniques exhibit numerous distinct advantages, including energy and cost saving, improved phase compatibility, improved phase dispersion/distribution, simplified production processes, and reduced production time, as well as enhanced materials properties and performance. Thanks to these, in situ processing techniques have been, and are still being, used commonly and extensively to prepare a range of novel materials (from polymer based to metal based to ceramic based) that are highly demanded by important industrial sectors.

Main topics of this Special Issue include but are not limited to the following:

1. In situ synthesis of high-entropy materials and high-activity catalysts;
2. In situ formation of functional coatings/films/membranes and barrier layers;
3. In situ phase reinforcement of composites;
4. Template synthesis of novel materials;
5. Reaction bonded composites;
6. In situ preparation of core–shell particles/grains;
7. In situ surface engineering;
8. In situ design strategy for self-healing materials;
9. Simulation/modelling of in situ reaction processes.

materials

IMPACT FACTOR 3.4 | Indexed in: PubMed | CITESCORE 5.2

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 - Q2 (*Metallurgy & Metallurgical Engineering*) / CiteScore - Q2 (*Condensed Matter Physics*)

Contact Us

Materials Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/materials
materials@mdpi.com
𝕏@Materials_Mdpi