

Special Issue

Reaction Mechanism and Properties of Cement-Based Materials (2nd Edition)

Message from the Guest Editor

This Special Issue focuses on but is not limited to, the mechanism of physicochemical effects on the cracking and toughening properties of cement-based materials on the macroscopic scale, such as gelling components, aggregates, admixtures, fibers, water-binder ratio, curing system and environmental effect; the effects of micrometer scale reinforcement materials such as microbeads, whiskers and osmotic crystals on the filling, bridging, bonding and osmotic crystallization in cement-based materials system.

It is my pleasure to invite you to contribute to the Special Issue “Reaction Mechanism and Properties of Cement-Based Materials.” Full papers, communications, discussions, and reviews related to the current research, application and development of strengthening, toughening and durability enhancement components of different scales of cement-based materials, reaction mechanism and properties of various cementitious materials including Portland cement, aluminate cement, sulfate aluminum cement, ferroatluminat cement, phosphate cement are welcomed.

Guest Editor

Dr. Weiting Xu

School of Materials Science and Engineering, South China University of Technology, Guangzhou 510641, China

Deadline for manuscript submissions

closed (20 September 2025)



Materials

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed



mdpi.com/si/212981

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

[mdpi.com/journal/
materials](https://mdpi.com/journal/materials)





Materials

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed



[mdpi.com/journal/
materials](https://mdpi.com/journal/materials)



About the Journal

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

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)