

## Special Issue

# Emerging Approaches for Performance Assessment and Prediction of Cement-Based Materials

### Message from the Guest Editors

This Special Issue brings together a collection of research papers that delve into emerging approaches for assessing performance of cement-based composites. The Issue covers a broad spectrum of topics, including:

- Novel imaging techniques: These contributions explore state-of-the-art imaging methods to provide detailed insights into the microstructure of cement-based composites at different length scales.
- Smart sensing systems: These contributions emphasize the development and application of smart sensors, wireless sensor networks, and data analysis techniques for real-time monitoring of structural behavior of cement-based composites.
- Multi-scale modeling: These contributions present computational modeling approaches to simulate and predict the behavior of cement-based composites.
- Data-driven approaches: These contributions showcase the use of data-driven methodologies, machine learning techniques, and big data analysis to enhance the characterization and assessment of cement-based materials.

### Guest Editors

Dr. Nima Farzadnia

Department of Civil, Geological, and Environmental Engineering,  
University of Alaska Fairbanks, Fairbanks, AK, USA

Dr. Amin Malek

Department of Computer and Electrical Engineering, California State  
University, Bakersfield, CA, USA

### Deadline for manuscript submissions

closed (20 January 2024)



## Materials

an Open Access Journal  
by MDPI

Impact Factor 3.7  
CiteScore 7.0  
Indexed in PubMed



[mdpi.com/si/173482](https://mdpi.com/si/173482)

*Materials*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[materials@mdpi.com](mailto:materials@mdpi.com)

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





# Materials

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.7  
CiteScore 7.0  
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)