Special Issue

Smart Cementitious Materials for Sustainable Building Engineering

Message from the Guest Editor

Concrete is the most used construction material worldwide, its global consumption reaching 25 Gt per year. Due to this huge production, the cement industry contributes to global warming through an estimated 5–7% of CO2 emissions. Cracking is known to be the most challenging problem for the life-cycle performance of cementitious materials, which are inherently weak in tensile strength. Thus, the development of improved durability concretes and alternative binders to Ordinary Portland Cement (OPC) are research subjects of pivotal relevance in the field of sustainable building. Promising strategies to improve the sustainability of concrete are: - New smart cementitious nanocomposites for health-monitoring of structures, thus increasing both the structural safety and service life of structures; - Graphene-based cementitious nanocomposites capable of refining the pore structure and reducing flaws and cracks in the cement based matrix; - The use of alternative binders to OPC, such as geopolymers, with the potential to reduce CO2 emissions from the cement industry; - Self-healing cementitious materials.

Guest Editor

Dr. Francesca Romana Lamastra

Department of Enterprise Engineering "Mario Lucertini", University of Rome "Tor Vergata", Via del Politecnico 1, 00133 Roma, Italy

Deadline for manuscript submissions

closed (31 March 2023)

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/71929

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

mdpi.com/journal/nanomaterials

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/journal/nanomaterials

MDPI

About the Journal

Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

Editor-in-Chief

Prof. Dr. Eugenia Valsami-Jones
School of Geography, Earth and Environmental Science, University of Birmingham, Birmingham B15 2TT, UK

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, CAPlus / SciFinder, Inspec, and other databases.

Journal Rank:

JCR - Q2 (Physics, Applied) / CiteScore - Q1 (General Chemical Engineering)