Special Issue

Nanotechnology and 2D Materials for Regenerative Medicine

Message from the Guest Editor

Nanomaterials enable targeted delivery of drugs, growth factors, and genetic material. Graphene-based materials, black phosphorus, and transition metal dichalcogenides present a great opportunity to advance the field of tissue engineering. These nanomaterials can be engineered to mimic the extracellular matrix, providing an ideal environment for cell attachment, growth, and differentiation. 2D materials can be functionalized with bioactive molecules, enhancing ability to guide tissue regeneration and repair. 2D nanomaterials have been utilized for repair of skin, bone and cartilage tissues, such as in skeletal muscle repair, the regeneration of cardiac muscle, the treatment of brain disease and regeneration of nerves. They have shown exceptional efficiency in tissue repair and excellent biocompatibility, highlighting their significant potential to be used in clinical applications. This Special Issue welcomes the submission of original research-based articles and reviews that describe the fundamentals, progress, applications and challenges associated with the use of nanotechnology and 2D materials for regenerative medicine.

Guest Editor

Dr. Domenica Convertino
NEST Laboratory, Scuola Normale Superiore, Piazza San Silvestro 12, 56127 Pisa, Italy

Deadline for manuscript submissions

closed (31 October 2025)

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/214673

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)