Special Issue

Application and Evaluation Method of Nanomaterial in Bone Regenerative Medicine

Message from the Guest Editor

The bone matrix of living organisms is composed of a number of nanobiomaterials. As the crystal nuclei of hydroxyapatite, type I collagen (1.5 nm in diameter) and matrix vesicles (30–300 nm in diameter) are the main players in bone matrix. At present, research and development on nanomaterials and nanoscale processing technologies for bone regenerative medicine are being actively pursued. Numerous reports have surfaced on the promotion of bone formation and inhibition of bone resorption by surface-modified and chemically loaded nanoparticles as well as on the promotion of bone regeneration by nanosized surface processing and 3D processed scaffolds. This Special Issue covers not only the current research on nanomaterials for bone regeneration, but also the use of nanolevel processing techniques in bone regenerative medicine. As I have noticed several novel biological evaluation methods among papers related to bone regeneration submitted to this journal, I also encourage more such proposals on biological evaluation methods for bone regeneration.

Guest Editor

Dr. Hisao Haniu

Institute for Biomedical Sciences, Interdisciplinary Cluster for Cutting Edge Research, Shinshu University, 3-1-1 Asahi, Matsumoto, Nagano 390-8621, Japan

Deadline for manuscript submissions

closed (30 November 2022)

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/61586

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

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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

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