Special Issue

Bioprinting and Nano-Biomaterials in Tissue Engineering and Regenerative Medicine

Message from the Guest Editor

The combination of 3D bioprinting technologies and nano-biomaterials may open a wide range of perspectives towards the generation of highly complex cell-laden constructs in the field of tissue engineering and regenerative medicine. The possibility to overcome critical weaknesses of obtained products, at the same time improving their structural and functional features, will allow the success of existing studies, especially in the perspective of in vitro and in vivo applications. Cell behavior over time may benefit from natural mimicking microenvironment, specific biochemical and biophysical cues, as well as from a specific array of bioactive stimuli able to modulate cell fate. Morphological, topographical, and chemical features of 3D bioprinted structures, through the employment of micro- or nano-structured bioactive materials, may be—directly or indirectly—involved in tissue regeneration processes.

Guest Editor

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Deadline for manuscript submissions

closed (31 May 2023)

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/119453

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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.

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