

Special Issue

Nanostructured Materials for Biomedicine and Bioengineering

Message from the Guest Editors

Research focusing on innovative nanomaterials has been dramatically increasing in the last 20 years in the field of bioengineering, biomedicine and regenerative medicine, thanks to the unique features which can be provided by nanomaterials. Multifunctional nanoparticles, smart nanostructured scaffolds and implant coatings are only a fraction of the still partially unexplored framework of nanomaterial-based applications. As a matter of fact, advanced biomaterials with defined nanotopography and chemistry can be tailored to create nanoscale environment conditions favorable to cell adhesion, proliferation and differentiation in a modulated fashion, to promote the optimal integration of implants and lead the regeneration processes. The aim of this Special Issue is to collect and publish papers that emphasize the effect of nanomaterials properties at the micro- and nano-scale, to better characterize the efficiency and functionality of novel materials and devices, for their application in regenerative dentistry and orthopedics, including bone, cartilage, tendons, and nerve tissue engineering.

Guest Editors

Prof. Gianluca Carnevale

Department of Surgery, Medicine, Dentistry and Morphological Sciences, University of Modena and Reggio Emilia, Via del Pozzo 71, Modena, Italy

Dr. Michele Bianchi

Italian Institute of Technology, Center for Translational Neuroscience, via Fossato di Mortara 17-19, Ferrara, Italy

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

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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

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