



Advanced Nanomaterials for Tissue Engineering Applications

Guest Editor:

Prof. Dr. Andreas Arkudas

Department of Plastic and Hand Surgery, Laboratory for Tissue Engineering and Regenerative Medicine, University Hospital of Erlangen, Friedrich-Alexander University of Erlangen-Nürnberg (FAU), 91054 Erlangen, Germany

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Message from the Guest Editor

The term “tissue engineering” was first mentioned in the 80s and since then researchers have tried to mimic nature to engineer tissues to replace organs or isolated biological structures. Most of these studies rely on a biomaterial as a scaffold, specific cells, and growth-stimulating signals. In the last few decades, various publications on the great achievement concerning different tissues have been published. Nevertheless, most of these publications are in vitro and have not yet been adopted in the clinical scenario. One major challenge in bringing the in vitro results into clinical dimensions is the lack of vascularization of tissue-engineered constructs.

This Special Issue of *Nanomaterials* focusses on the following topics:

- Biomaterials for bone/muscle/skin/vessel tissue engineering
- Angiogenesis of tissue-engineered constructs
- Interaction of cells and biomaterials
- Biomaterials for organ tissue engineering
- Biomaterials with incorporated growth-stimulating signals
- In vivo tissue engineering models for bridging bench to bedside





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Editor-in-Chief

Prof. Dr. Eugenia Valsami-Jones

School of Geography, Earth and Environmental Science,
University of Birmingham,
Birmingham B15 2TT, UK

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. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

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Nanomaterials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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