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Nanotechnology and Additive Manufacturing for Hard Tissue Regeneration

Guest Editor:

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Deadline for manuscript submissions:
closed (30 November 2021)

Message from the Guest Editor

Dear Colleagues,

The role of nanotechnology and additive manufacturing in hard-tissue regeneration has significantly increased. Bone formation, bone bonding, cell viability, cell differentiation, mineralization, inflammation, and other key processes in hard-tissue regeneration are highly dependent on nano-structured surfaces and/or scaffolds. In addition, nanotopology and surface chemistry affect antibacterial activity. A new generation of smart biomaterials improving hard-tissue regeneration while preventing infection is highly desired.

For this Special Issue, we are especially interested in surface modifications of metals, ceramics, and polymers, synthesis of scaffolds, characterization of hard-tissue regeneration processes, and possible applications based on nanotechnology. Manuscripts reporting nanotechnologies applicable to custom-made biomaterials with tailored outer and/or inner structures are also welcome.

Dr. Seiji Yamaguchi
Guest Editor

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Editor-in-Chief

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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.

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