Special Issue

Bioactive Ceramics and Their Applications

Message from the Guest Editor

Bioceramic materials are moving a step ahead: applications where ceramics were denied are becoming a reality, due to the evolution of novel compositions and manufacturing processes that produce materials possessing outstanding mechanical and bioactive properties. Beside the use of hydroxyapatite for bone repair, the recognized importance of silicon in the bone regeneration process has opened the door to silicon-substituted hydroxyapatite regarding calcium silicates and their solid solutions. Bioceramic bone grafts can find applications in non-load-bearing implants such as maxillofacial surgery or connections in orthopedics and dentistry. Biocremics can also be used as fillers, like powders or spheres. The use of bioceramics as coatings allows for the improvement of implant bioactivity where mechanical strength and elastoplasticity are the main prerequisites (orthopedic and dental applications). This Special Issue wants to focus on state-of-the-art and cutting edge research on the three main applications of bioceramics: maxillofacial, orthopedic, and dental, to ensure that the four main bioceramics shapes are used: coatings, 3D printed scaffolds, foams, and powders and beads.

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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