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Bioactive Ceramics and Their Applications

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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. Bioceramics 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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Special Issue



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Editor-in-Chief

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Message from the Editor-in-Chief

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