Special Issue

Hydroxyapatite and Hydroxyapatite-Based Materials

Message from the Guest Editor

Hydroxyapatite (HAp) is a biomaterial of significant importance in biology, chemistry, and medical applications. HAp promotes cell adhesion, proliferation, and differentiation, supporting tissue engineering and regenerative medicine. Its biocompatibility and non-toxicity ensure safe use in medical implants and prosthetics, while its antimicrobial properties help prevent infections. Additionally, its ion exchange capabilities allow it to incorporate therapeutic and magnetic ions, enhancing its functionality. These properties are crucial for drug and gene delivery, making HAp a versatile carrier for targeted therapies. Its magnetic properties enable applications in targeted drug delivery, hyperthermia treatment for cancer, and MRI. Its luminescent properties make HAp valuable in fluorescence imaging and photodynamic therapy (PDT). Furthermore, its piezoelectric properties open avenues for stimulating bone growth, energy harvesting, and intelligent orthopedic implants, contributing significantly to advanced biomedical technologies.

In this Special Issue, we welcome contributions on the broad properties and applications of hydroxyapatite materials

Guest Editor

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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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