Special Issue

Piezoelectric Materials for Biomedical Applications

Message from the Guest Editor

Among the broad variety of functional materials, piezoelectric systems stand out with their ability to convert mechanical stress into electric surface potentials as well as electric fields into mechanical strain. This characteristic makes them interesting for a broad variety of biomedical needs, e.g., for pressure sensors, cell stimulation, drug delivery or energy harvesting. The great potential for functional biomedical applications has just become apparent in recent years. However, the complexity of the interplay between a specific body environment and an artificial material in terms of, e.g., chemical toxicity, microstructural compatibility, and implant functionality provides a significant challenge for the development of reliably functional piezoelectric implants. This Special Issue aims to provide an overview of the current research on piezoelectric materials for biomedical applications covering all aspects from material development, microstructural optimization, and implant design to in vitro and in vivo studies.

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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