Special Issue

Advanced Microstructural Characterizations of Biomaterials and Scaffolds

Message from the Guest Editors

New materials and technologies, also coupled to advanced biomedical techniques such as stem cell and gene therapies, result in continuously improving biocompatible and smart materials, promoting very promising therapies especially (but not only) in oncology, cardiology, neurology, orthopedics, and dentistry. In this framework, a fundamental role is played by advanced experimental techniques for the material characterization. In particular, new imaging techniques based on optical and electron microscopy as well as on X-rays and synchrotron radiation (micro-CT) have recently been developed. On the other hand, other methods for investigations at the nanoscale, including neutron techniques such as diffraction and small-angle scattering, are used to determine several important microstructural parameters influencing the macroscopic and biological behavior of materials. This Special Issue will focus on some of these experimental methods, putting into evidence their contribution to the development of new biomaterials and biocompatible devices, leading to new promising therapies for the treatment of a large number of diseases.

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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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