Special Issue

Carbon/Graphene-Enriched Biomaterials and Applications

Message from the Guest Editors

Graphene has recently emerged as a suitable alternative material for applications in biomedical and regenerative fields. Graphene is a two-dimensional (2D) carbon-based material with sp2-bonded carbon atoms arranged in a honeycomb lattice structure, with extraordinary electrical, mechanical, physical, and optical properties. However, graphene has especially great potential in tissue engineering, conservative surgery, and regenerative medicine. Graphene and its derivatives have been widely investigated, since its discovery in 2004, to develop electrical and biomedical devices such as drug delivery systems, biosensors, and regenerative therapies. The potential applications of graphene in biological systems are numerous and include its use in cell imaging and drug delivery as well as biosensors. Several reports have shown that, when grown on graphene-coated biomaterials, there is an increase of adhesion and proliferation of different cells. Moreover, it is widely recognized that graphene increases cell proliferation, and influences the differentiation of stem cells into certain cell lines.

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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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