

Special Issue

Modelling Polysaccharides-Based Hydrogels: From Preparation to Biomedical Applications

Message from the Guest Editors

Hydrogels, thanks to their natural-tissue-like soft consistency and cell-loving attributes, have emerged as the most potential scaffolding substrate for three-dimensional cell culture in tissue engineering. The nature and structure of the material are essential to determine the efficiency of the scaffolds for cell spreading, proliferation, and differentiation *in vivo*. Among the specific scaffold requirements, interconnected open porosity is a necessary property to allow cell ingrowth and adequate vascularization, and it is also preferable that the scaffold biodegrade at a controllable rate that approximates the rate of tissue regeneration eventually creating space for new tissue growth. This Special Issue is dedicated to the design and development of advanced customized hydrogel-based scaffolds and their applications for osteogenic/chondrogenic differentiation *in vitro* and *in vivo*. Contributions regarding innovative materials for tissue regeneration and various aspects of their interactions with different cell types and tissues are welcome.

Guest Editors

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Dr. Gina Lisignoli

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Message from the Editorial Board

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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