Special Issue

Recent Advances in Hydrogels for Biomedical Applications

Message from the Guest Editor

Rapid development of hydrogels is revolutionizing medicine. Hydrogel scaffolds are finding applications in well-established biomedical areas, such as stem cell patterning, drug delivery, neural engineering and organoid development. Hydrogel materials have adjustable electrical, mechanical, and chemical properties. This flexibility provides opportunities to recapitulate three dimensional microenvironments that are native to a variety of tissues and stem cells. Furthermore, recent advancements in 3D printing technology have improved the accuracy and complexity of fabricated cell-laden scaffolds, which can now resemble different organs with high precision and are used as research tools or transplants. In this Special Issue, we are publishing recent developments in hydrogel applications. Example areas include implantable devices, targeted delivery of growth factors and/or drugs, stem cell differentiation and organoid development. We are also interested in hydrogel scaffolds used as in vitro models to investigate electrical, mechanical and chemical interactions in different tissues (e.g., nervous system).

Guest Editor

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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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