Special Issue

Synthesis and Multifunctional Applications of Hydrogels

Message from the Guest Editor

Hydrogels have significant potential as biomaterials in a variety of applications due to their high water content, softness, flexibility, tunable physical and mechanical properties, relatively low cytotoxicity, and increased biocompatibility. The current trend in designing hydrogels is focused on improving the fabrication process by using non-toxic cross-linking agents and safe chemical processes, allowing them to be used as bioinks. There is a clear tendency toward the use of supramolecular motifs for the in situ preparation of hydrogels. We welcome any submissions related to the three-dimensional (3D) structure of hydrogels prepared using physical or chemical cross-linking reactions, from natural polymers (such as polysaccharides and polypeptides) or composite hydrogels in various forms. Recent advances in the design, synthesis, and fabrication of hydrogels are also welcomed, as are insights into their structural, mechanical, and flowing properties. Biomedical applications associated with hydrogel biomaterials, such as biofabrication, drug delivery, tissue engineering, and regenerative medicine, are of particular interest to this Special Issue.

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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