Special Issue

Implications of Smart Biopolymers and Their Composites in Medical Bioengineering

Message from the Guest Editor

Biopolymers are produced from natural sources and are, thus, biodegradable, biocompatible, and renewable. In addition to these properties, smart biopolymers can respond to external stimuli, such as temperature, humidity, pH, light, and electrical or magnetic fields, by incorporating nanoparticles/ions, grafting functional groups, etc. The purpose of this Special Issue is to provide an overview of novel advances of smart biopolymers in the relevant fields of preparation, response mechanisms, and applications. This Special Issue covers the applications of smart biopolymers and their composites in drug delivery, cancer diagnosis and treatment, tissue engineering, wound healing, etc. The design of intelligent response mechanisms for biopolymers, and the regulation of the response of biopolymers to the tissue's microenvironment for more specific and efficient applications are this Special Issue's topics of interest. We also welcome research on the exploration of tailored preparation processes, microstructure design, and mechanical property enhancement of smart biopolymers.

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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