Topical Collection

Editorial Board Members' Collection Series: Biomaterials Design

Message from the Collection Editors

The global clinical demand for biomaterials is constantly increasing due to the aging of the population. Academic and industrial research is expected to improve the properties and extend the lifespan of biomaterials used to repair or replace tissue functions. Inside the body, implanted materials need specific biological, physical, chemical, and mechanical properties to interact appropriately with the physiological environment. Biomaterials can be made of metals, polymers, bioglasses, ceramics, or a composite of these materials. They must be biocompatible, i.e., accepted by the human body without any adverse effect. For some specific applications, they can be bioactive, inducing a physiological response that supports the function and performance of the biomaterial. The biomedical applications of biomaterials include, but are not limited to, joint replacements, bone implants, intraocular lenses, artificial ligaments and tendons, dental implants, blood vessel prostheses, heart valves, skin repair, cochlear replacements, drug delivery systems, stents, nerve conduits, surgical sutures, pins and screws for fracture stabilization, and surgical mesh.

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Designs

an Open Access Journal by MDPI

CiteScore 4.8

mdpi.com/si/147477

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Designs (ISSN 2411-9660) is a peer-reviewed and open access journal which provides a unifying research framework for a wide range of engineering designs of disciplines and industrial applications, including mechanical engineering, electrical engineering, civil engineering, mechatronics, aerospace engineering, bioengineering, energy engineering, industrial engineering and manufacturing systems are of interest. We would like to invite you to contribute to the journal by sending us your high quality research papers. We would be pleased to welcome you as one of our authors.

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