Special Issue

Microstructure and Biomechanical Behavior of Living Tissues

Message from the Guest Editor

Living tissues' composition and organization at the micrometer scale provide them with exceptional biomechanical properties. In particular, connective tissues composed mainly of collagen fibers interact with elastin fibers, minerals, the extracellular matrix, etc., and possess mechanical properties that are very sensitive to changes in microstructure, which occur with aging or in connection with a pathology. Recent developments in vivo and in vitro bioimaging techniques now allow for a fine quantification of this microstructure. The mechanical properties of these tissues are now accessible for research at different space and time scales. This Special Issue will highlight the most recent discoveries and advances in scientific areas related to living materials with applications in medicine and biology. This SI will particularly focus on the relationship between the microstructure and biomechanical response of connective tissues, such as bone, cartilage, ligament, skin, arteries, muscle, fibrous soft tissues, etc. Topics of interest include but are not limited to, microstructure characterization, biomechanical testing, bioimaging, effects of aging and pathological conditions.

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Message from the Editor-in-Chief

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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