Special Issue

Advances and Applications of Biosensors, Biorobotics and Biomaterials at the Microscale

Message from the Guest Editors

The field of microscale biological and bioinspired materials has garnered significant attention from both scientists and consumers alike due to the potential for employing miniaturized approaches in applications such as sensing, drug delivery, and single-cell targeting, among others. This opens up new avenues for previously unattainable applications. Furthermore, by integrating new smart materials, it becomes possible to equip these platforms with on-board (bio)recognition and transduction mechanisms. It is also crucial for the biomaterials community to comprehensively study and understand the principles of these operational mechanisms. This will enable novel materials to function safely, efficiently, and with unparalleled precision. In addition to developing new micromaterials, it is equally important to design peripheral equipment that can facilitate remote positioning, characterize their structure and operation, and generate physicochemical responses. This Special Issue will encompass recent breakthroughs in the development of new miniaturized biosensors, biorobots, and biomaterials, as well as novel applications that leverage their enhanced properties.

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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