

Special Issue

Application of Stimuli-Sensitive Hydrogel for the Treatment of Human and Animal Diseases

Message from the Guest Editors

Hydrogels are three-dimensional network structures made up of synthetic and/or natural polymers that can retain a large amount of water or biological fluid under physiological conditions. Among these, stimuli-responsive hydrogels have been attracting increasing interest because of their ability to spontaneously form a network in response to specific parameters, such as pH, light, temperature, ultrasound waves, electromagnetic radiation or biological stimuli. Moreover, these systems can be characterized by self-healing properties, an advantage over traditional hydrogels. They can be easily injected in liquid form—even into irregular sites—and undergo gelation in the body, promoting a prolonged and sustained drug release, thereby improving the therapeutic outcome of various active compounds. As a result, they have made significant contributions to the advancement of non- and minimally invasive medical treatments. The aim of this Special Issue is to showcase recent progress concerning the synthesis, characterization and applications of smart hydrogels for the treatment of human and animal diseases.

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