Special Issue

Biological Applications of Magnetic Nanoparticles

Message from the Guest Editor

Magnetic nanomaterials represent one of the most important and emerging classes of materials in nanotechnology due to a range of potential applications. In particular, magnetic nanoparticles have been envisaged for various biological and biomedical applications. For example, magnetic nanoparticles can be used as drug delivery agents, which can be localized in the body at a site of interest using an external magnetic field. When exposed to an alternating magnetic field, magnetic nanoparticles can serve as powerful heat sources, destroying tumour cells, that allows to use these nanomaterials in cancer hyperthermia therapy. Magnetic fluids based on aqueous dispersions of small size magnetic nanoparticles have also been utilized as contrast agents for magnetic resonance imaging (MRI). This Special Issue is focused on the preparation, biological behaviour studies and prospective applications of magnetic nanomaterials in biology and medicine.

Keywords: Magnetic nanoparticles; drug delivery; sensing; nanomedicine; MRI; magnetic hyperthermia

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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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