CONFERENCE ABSTRACT

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NANOMATERIALS AND MAGNETIC NANOPARTICLES AS POTENTIAL CANDIDATES FOR HUMAN HEALTH AND BIOANALYTICAL APPLICATIONS

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ABSTRACT:-

There has been a rapidly growing trend towards the use of nanomaterials (NM) in healthcare and bioanalytical sciences during the last decade. It has led to a wide range of prospective applications of NM in diagnostics, therapeutics, drug delivery, biomedical imaging, water purification and environmental monitoring. Several potential techniques have been developed for the cost-effective production, characterization, surface modification, functionalization, formation of nanocomposites and toxicity analysis of NM. However, it is expected that several NM-based products will be commercially-available in the coming years, after demonstrating compliance with the healthcare and bioanalytical requirements. Magnetic nanoparticles have become the main candidates for biomedical and bioanalytical applications. Magnetic nanoparticles (MNPs), in combination with an external magnetic field and/or magnetizable grafts, allow the delivery of particles to the chosen target area, fix them at the local site while the medication is released, and act locally. In this review, we focus mostly on the potential use of MNPs for biomedical and biotechnological applications, and the improvements made in using these nanoparticles (NPs) in biological applications.

Keywords: Nanomaterials; Human Health; Bioanalytical sciences; magnetic nanoparticles; applications, etc.

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