Introduction

Multi-Functionality of Nanoparticles in Biomedicine and Nanobioelectronics

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Nanobiotechnology, an interface between *Life Sciences* and *Nanotechnology* is a rapidly growing research field in the 21st century encompassing the development of various novel functional materials with tunable properties for interactions with biomolecules. Thin films have been largely explored for their wide range of bio compatible MEMS applications. Research related to the biofunctionalization of various nanomaterials has imparted a new future direction to this upcoming area for applications in diagnostic biosensors, drug and gene delivery as also other advancements in the field of biomedicine.

The current section of the thematic issue of the *Journal of Nano Research* presents seven review and research articles related to synthesis and functionalization of nanomaterials for a range of biomedical applications.

The potential of nanoliposomes, dendrimers and micelles as promising nanocarriers for anticancer herbal bioactives have been highlighted. Investigations on amine functionalized $CoFe_2O_4$ & $NiFe_2O_4$ magnetic nanoparticles for cell viability and cell death as also polymer assisted $NiZnFe_2O_4$ ferrites for soft magnetic applications have been presented. Fabrication techniques of graphene based bimetallic (Ag/Au) surface plasmon resonance (SPR) biosensor as also electrochemically deposited CdTe thin films have been put forth for applications in biomedical devices. Interaction of MWCNTs with human cell line for their '*in vivo'* biocompatibility underscores their potential in drug delivery.

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