



Technological improvement and biomedical application-oriented research in the field of Nanoscience has expanded at a rapid pace over the last two decades resulting in translation into wide range of medical and biological utilities. Experimental research in Nanomedicine and associated Nanotechnology-based preclinical and clinical application has been effective, rewarding and encouraging. Recent research outcomes in Nanomedicine include development and optimization of nanostructure based cancer immunotherapy strategies as well as fabrication of smart sensors for improved diagnostic specificity. The unique ability of the nanomaterial to direct immunomodulators specifically towards the tumors was fundamental to bring about greater efficiency in clinical translation of nanomedicine mediated immunotherapy. Nanotechnology has emerged as practical solution for various medical challenges including accurate diagnostic abilities, drug free therapy using magnetic fields as well as formulation of novel nanomedicines.

Journal of Nanomedicine and Nanotechnology has been consistently publishing peer-reviewed content over the past decade tracking the major achievements and outcomes from all across the world. The current issue of the Journal is composed of research and review articles covering emerging topics such as ferromagnetic nanowire systems, cancer diagnosis and therapy as well as green synthesis of silver nanoparticles.

Control over nanoparticles by means of micromagnetic manipulators has immense relevance biology, medicine and physics. Beklemisheva et al. [1] have proposed targeted usage of ferromagnetic microwires for magnetic object manipulation. Microwires in biocompatible shells were produced with tunable magnetic properties that were attributed to their unique composition. The authors have emphasized that magnetic manipulators based on ferromagnetic microwires enable fixation, redistribution and analysis of magnetic nanoparticles and cell suspensions and their biocompatibility enables usage in living systems.

The use of nanomaterial has enormous potential in diagnosis, bio-sensing, imaging, as well as immunotherapy of cancer. Nanoparticle based cancer vaccines are highly relevant for improvement in patient life. Jain et al. [2] reviewed the immunomodulatory properties of nanomedicine in cancer theranostics and emphasized that the factors associate with pH, hypoxia, tumor angiogenesis,

extracellular matrix, have great influence on nanomedicine immunomodulation. More specifically, biomaterial based nanomaterials can improve antigen presentation, delivery of therapeutic supplements, and can thus be effective with low dose compared to synthetic nanoparticles.

Sampathkumar et al. [3] successfully demonstrated a green chemistry based ecofriendly method of biogenic synthesis of stable silver nanoparticles using salt tolerant *Phormidium* microalgae sp. for various biomedical applications. The authors reported that the intracellular and extracellular enzymes and various active biomolecules including some proteins and pigments such as phycobiliproteins secreted by microalgae play a major role in the formation of nanoclusters. They have further characterized the extracted biogenic silver nanoparticles based on scanning microscopic field to analyse the 2D, 3D topographical structure and showed that the synthesized biogenic silver nanoparticles were spherical and well distributed. Also, EDAX study was conducted for qualitative and quantitative status of elements involved in the formation of silver nanoparticles.

I thank all the contributing authors for communicating their valuable research outcomes and extend my sincere appreciation to the associated editors and reviewers for rendering their professional services and timely publication in the current issue. I am very much looking forward for the compilation of the upcoming issue and more such translation research in Nanomedicine.

## References

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