Preface

This book is the results of the contribution of a number of experts from the international scientific community in the respective field of research. It thoroughly covers some of the latest applications of inorganic nano materials in medical science. Nanoscience and nanotechnology are steering mankind into new realms of efficient and miniature tools and appliance. Currently, this field of research is a major focus area of scientific interest, due to its huge potential in all areas of science and engineering. So, it has enormous potential also in the modern medical research, disease diagnosis and therapy. With nanotechnology, scientists are acquiring abilities to understand and manipulate materials at the scale of atoms and molecules. In the process, they are creating the potential for people to see the world, act in it, and change it, in fundamentally new ways. While many of the present applications of nanotechnology are mundane, future applications may seem miraculous. Just as they have with electricity, automobiles, and computers, people will use nanotechnology to change their lives, their work, their habits, their notions of fun and play, and so much more. In relation with the title of this book, inorganic or inorganic based hybrids or composite nano materials, which have some innovative applications in the treatment of disease such as cancer, cardiovascular etc. and drug or gene delivery, imaging diagnosis, sensors etc. has been targeted and included in this book. Inorganic nanomedicine is a multidisciplinary research area includes, chemistry, physics, biochemistry, biotechnology medical science and engineering.

This book is indeed the result of remarkable cooperation of many distinguished experts, who came together to contribute their research work and comprehensive, in-depth and up to date review articles. We are thankful to all the contributing authors and co-authors for their valued contribution to this book. We would also like to express our gratitude to all the publishers and authors and others for granting us the copyright permissions to use their illustrations. Although sincere efforts were made to obtain the copyright permissions from the respective owners to include the citation with the reproduced materials, we would like to offer our sincere apologies to any copyright holder if unknowingly their right is being infringed. This book contains eight state-of-the-art reviews and research articles: In **Chapter-1** a detail review on Inorganic Glyconanoparticles and its application has been covered; **Chepater-2** gives us a through the view of nanotechnology and fabrication of inorganic nano particle and also details about TiO_2 nanoparticles and its biomedical application, **Chapter-3** is also a review article on biomedical uses of gold nanoparticles. **Chapter-4** deals with the synthesis and characterization of Thiolated Gd(III)-chelate gold nanoparticle for MRI imaging. **Chapter-5** describes a novel synthesis strategy of Metal Oxides Based Bhasmas. In **Chapter-6**, a review article on Chitosan-Metal Oxide Nanoparticles nano composite's and its biomedical application has been covered; **Chapter-7** gives an up-to-date review on Antibacterial Applications of silver (Ag) nanoparticles; **Chapter-8** describes Surface-Enhanced Raman Scattering and its application on molecular detection, which has application in medical science and also in other materials science disciplines.

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