DESCRIPTION

Following an overview of nanotechnologies for diagnostic purposes, this book goes on to look at nanoparticle-based magnetic resonance, molecular and other imaging applications, as well as the potential roles of carbon nanotubes and bionanoparticles in biomedical applications. The book's main focus is on drug delivery systems based on nonporous and nanosize materials, solid lipid and polymeric nanoparticles, intelligent hydrogels, core-shell nanoparticles, and nanocapsules, rounded off by a discussion of their biomedical applications. The final part of this volume covers such biomedical strategies as gene therapy, synthetic gene-transfer vectors and targeted delivery.

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Challa Kumar is currently the Group Leader of Nanofabrication at the Center for Advanced Microstructures and Devices (CAMD), Baton Rouge, USA. His research interests are in developing novel synthetic methods for functional nanomaterials and innovative therapeutic, diagnostic and sensory tools based on nanotechnology. He has eight years of industrial R&D experience working for Imperial Chemical Industries and United Breweries prior to joining CAMD. He is the founding Editor-in-Chief of the Journal of Biomedical Nanotechnology, an international peer reviewed journal published by American Scientific Publishers, and the series editor for the ten-volume book series Nanotechnologies for the Life Sciences (NtLS) published by Wiley-VCH. He worked at the Max Planck Institute for Biochemistry in Munich, Germany, as a post doctoral fellow and at the Max Planck Institute for Carbon
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