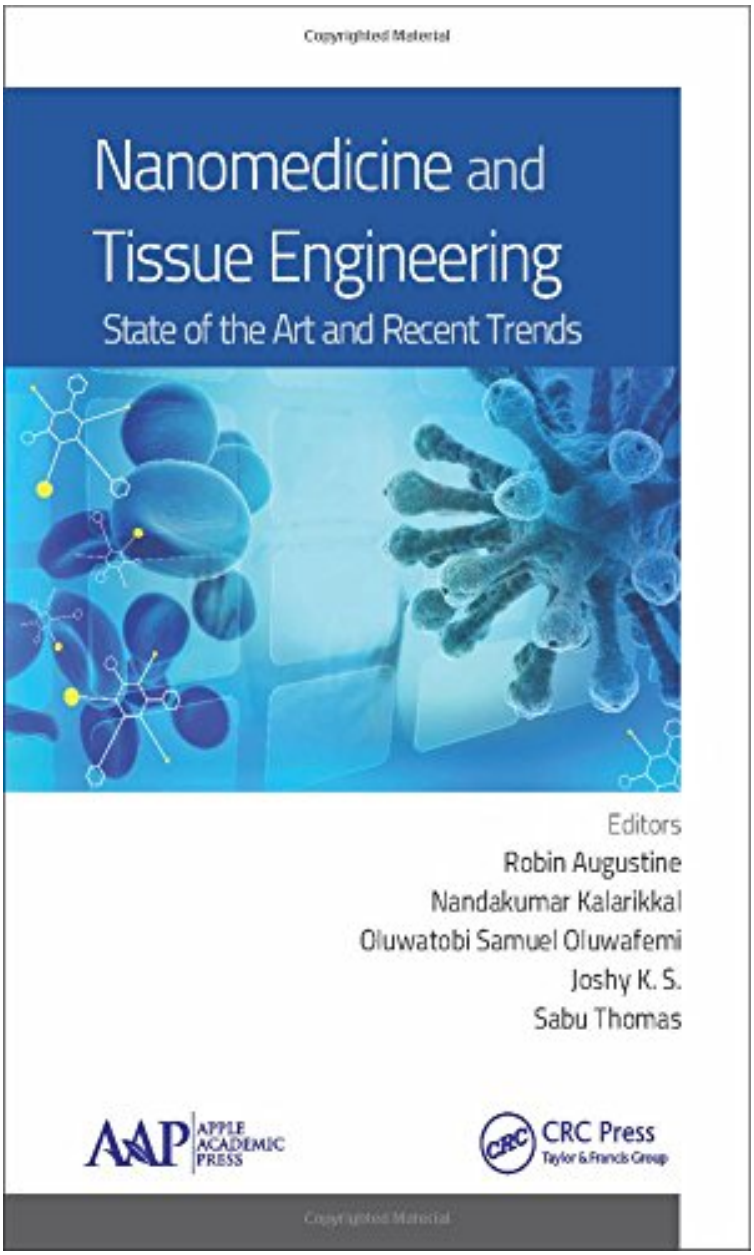
Nanomedicine and Tissue Engineering: State of the Art and Recent Trends

From Apple Academic Press
*ebooks | Download PDF | *ePub | DOC | audiobook*



#9657691 in Books 2016-03-28Original language:EnglishPDF # 1 7.00 x 5.00 x 1.00l, .0 #File Name: 1771881186562 pages | File size: 28.Mb

From Apple Academic Press : Nanomedicine and Tissue Engineering: State of the Art and Recent Trends before purchasing it in order to gage whether or not it would be worth my time, and all praised Nanomedicine and

Tissue Engineering: State of the Art and Recent Trends:

This book focuses on the recent advances in nanomedicine and tissue engineering. It outlines the basic tools and novel approaches that are becoming available in nanomedicine and tissue engineering and considers the full range of nanomedical applications which employ molecular nanotechnology inside the human body, from the perspective of a future practitioner in an era of widely available nanomedicine. Topics include: Health benefits of phytochemicals and application of superparamagnetic nanoparticles for hyperthermia Silver nanoparticles in nanomedicine Optical diagnostic of molecules and cells using nanotechnology Nanoparticulate drug delivery system for antiviral drugs Liposomal drug delivery systems, nanoemulsifying drug delivery system (SNEDS) Functionalization of tissue engineering scaffolds Induction of angiogenesis in scaffolds Many other recent achievements Written by some of the most innovative minds in medicine and tissue engineering, this book considers the full range of nanomedical applications which employ molecular nanotechnology inside the human body and will help professionals understand cutting-edge and futuristic areas of nanomedicine and tissue engineering research. Readers will find insightful discussions on nanostructured intelligent materials and devices that are considered technically feasible and that have a high potential to produce advances in medicine in the near future.

"Provides a clear and thorough insight into the current applications of nanotechnology in medicine. With its broad scope, this book reaches topics like the use of magnetic hyperthermia for the selective destruction of cancer cells, as well as green synthesis of metal nanoparticles and the surface functionalization of nanoparticles. Equally significant, it delves into the current trends of drug delivery techniques, including various nanocarriers, a self-nanoemulsifying drug delivery system, and scaffolding techniques. It features several chapters related to tissue engineering, focusing on scaffold fabrication techniques like electrospinning, the materials used, and their applications, especially in wound dressings. Ideal for professionals in the field, the chapters contained here give an in-depth look at the current state of nanomedicine and tissue engineering, and present this information in an easily comprehensible manner." Wenguo Cui, Professor, Orthopedic Institute, Soochow University, ChinaAbout the AuthorRobin Augustine is a research fellow working in the area of biomaterial fabrication for various medical applications. He has research experience in molecular mechanism of cancer, cytotoxicity studies and pathways that regulate the mechanism of glucose metabolism, cancer, and diabetes during his research at Rajive Gandhi Centre for Biotechnology, India. He is currently working in the area of nanobiotechnology in the lab of Professor Sabu Thomas at the International and Inter University Centre for Nanoscience and Nanotechnology, Mahatma Gandhi University, Kottayam, Kerala, India. Dr. Nandakumar Kalarikkal obtained his masters degree in physics with a specialization in industrial physics and his PhD in semiconductor physics from Cochin University of Science and Technology, Kerala, India. He was a postdoctoral fellow at NIIST, Trivandrum, and later joined with Mahatma Gandhi University. Currently he is the joint director of the Centre for Nanoscience and Nanotechnology as well as assistant professor in the School of Pure and Applied Physics at Mahatma Gandhi University. His current research interests include synthesis, characterization, and applications of nanophosphors, nanoferrites, nanoferroelctrics, nanomultiferroics, nanocomposites, and phase transitions. Oluwatobi Samuel Oluwafemi, PhD, is a senior lecturer at the Department of Chemistry and Chemical Technology, Walter Sisulu University, Mthatha Campus, Eastern Cape, South Africa. He has published many papers in internationally reviewed journals and has presented at several professional meetings. He is a fellow of many professional bodies, a reviewer for many international journals, and has received many awards for his excellent work in material research. His current research interests include application of nanoparticles in medicine, water treatment, polymer, LEDs, and sensors. Joshy K. S. is a research scholar at International and Inter University Centre for Nanoscience and Nanotechnology, Mahatma Gandhi University, Kottayam, Kerala, India. Sabu Thomas, PhD, is a professor of polymer science and engineering at the School of Chemical Sciences and Director of the International and Inter University Centre for Nanoscience and Nanotechnology at Mahatma Gandhi University, Kottayam, Kerala, India. He received his BSc (1980) in chemistry from the University of Kerala, BTech. (1983) in polymer science and rubber technology from the Cochin University of Science and Technology, and PhD (1987) in polymer engineering from the Indian Institute of Technology, Kharagpur. The research activities of Professor Thomas include surfaces and interfaces in multiphase polymer blend and composite systems, phase separation in polymer blends, compatibilization of immiscible polymer blends, thermoplastic elastomers, phase transitions in polymers, nanostructured polymer blends, macro-, micro- and nanocomposites, polymer rheology, recycling, reactive extrusion, processingmorphologyproperty relationships in multiphase polymer systems, double networking of elastomers, natural fibers and green composites, rubber vulcanization, interpenetrating polymer networks, diffusion and transport and polymer scaffolds for tissue engineering. He has supervised 65 PhD theses, 30 MPhil theses, and 40 masters theses. He has three patents to his credit. He also received the coveted Sukumar Maithy Award for the best polymer researcher in the country for the year 2008. Very recently Professor Thomas received the MRSI and CRSI medals for his excellent

work. With over 600 publications to his credit and over 17,500 citations, with an h-index of 67, Dr. Thomas has been ranked fifth in India as one of the most productive scientists.