1. Record Nr. UNISA996418173103316

Titolo	Nanomaterials in Biomedical Application and Biosensors (NAP-2019) [[electronic resource] /] / edited by Alexander D. Pogrebnjak, Maksym Pogorielov, Roman Viter
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2020
ISBN	981-15-3996-0
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (xvii, 271 pages)
Collana	Springer Proceedings in Physics, , 0930-8989 ; ; 244
Disciplina	620.5
Soggetti	Biophysics Biological physics Biomaterials Biomedical engineering Nanoscale science Nanoscience Nanostructures Nanotechnology Biological and Medical Physics, Biophysics Biomedical Engineering and Bioengineering Nanoscale Science and Technology Nanotechnology and Microengineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Bacterial cellulose/Hydroxyapatite printed scaffolds for bone engineering -- Delivery of probiotic to microbiome by layer-by-layer encapsulation -- Modernization of the preservative solution for red blood cells by magnetite nanoparticles (ICNB) -- Application of Infrared Spectroscopy to Study the Efefct of Magnitite nanoparticles (ICNB) on Molecular Structure of the Membranes of Preserved RBCs -- Morphological hanges in Gram-negative Microorganisms Treated with Silver and Copper Nanoparticles -- Regularities of obtaining metal-filled polymer composites -- Synthesis, haracterization and Antibacterial Activity of ydroxyapatite omposite Materials Loaded

with ZnO Nanoparticles -- Plasma electrolytic oxidation of TiZr alloy in ZnONPs-contained solution: structural and biological assessment -- Plasma electrolytic oxidation of the titanium-zirconium alloy (Zr60Nb21Ti19) for dental implant -- Nanostructured hemostatic sponges made from chitosan: structural and biological evaluation -- Composite ultrafiltration membrane incorporated with dispersed oxide nanoparticles -- The Laser-induced Coagulation Method of Biological Tissues -- Fullerene 60-containing hydroxyapatite/polymer polyelectrolyte composite for dental applications -- Graphene oxide influences on mechanical properties and drug release ability of hydroxyapatite based composite material -- Effect of surface modification of sputtered Ta2O5 magnetron ceramic coatings on the functional properties of antigen-presenting cells in vitro tests -- Features of Bacterial cellulose hydroxyapatite nanocomposites obtained by two different techniques -- Quality parameters of cellulose-chitosan based edible films for probiotic entrapment -- Synthesis of silver nanoparticles and therapeutic films for ophthalmology based on them -- A Hg (II) Fluorescent Sensor Based-on Bodipy Synthesized by Using Knorr Pyrrole -- Resistance of Hall Sensors Based on Graphene to Neutron Radiation -- Adhesive and Barrier Sublayers for Metal Nanofilms Active Elements of Hall Sensors -- Morphology and Luminescence Properies of Cellulose-CNT- BiPO4:Pr3+ Composites -- Time dependence of X-ray luminescence from yttrium oxide nanoceramics -- Electrochemical Formation of 'Synthetic Receptors' Based on Conducting Polymers -- Optical Immunosensor Based on Photoluminescent TiO2 Nanostructures for Determination of Bovine Leucosis Proteins. Model of Interaction Mechanism -- Electrical and photoelectric properties of Iron/Cromium oxide nanolayers composite structures.

Sommario/riassunto

This book covers novel and innovative technologies used in development, modeling, chemical/physical investigation and biomedical (in-vitro and in-vivo) trials of nanomaterials and nanocomposites. Novel methods for nanoparticle development and manufacturing are presented, as well as their safety and promising applications. In addition, the book highlights new frontiers in the use of metal / metal oxide nanoparticles, hierarchical nanostructures and organic coatings as sensors for detecting gases, inorganic and organic materials, including biosensors for bacteria and cancers. Organic nanoparticle composites for medical applications (tissue engineering, tissue replacement, regeneration, etc.), including hydroxyapatite NPs, are also covered, together with related in-vitro and preclinical investigations. In closing, the book shares recent findings on orthopedic and dental implant coatings using nanoparticles, their biological efficacy and safety.