

Nota di contenuto

Green/Biogenic Synthesis of nanoparticles -- Nanomaterials for photo-responsive materials -- Noble metal nanoparticles as energy storage materials -- Nanomaterials for fuel cell application -- Non-Invasive Analytics based System for Disease Monitoring -- Nanomaterials for oil & gas industry -- Nanomaterials for Food stability -- Antifungal property of biosynthesized nanoparticles -- Nano enhanced techniques for removal of dyes and metals -- Monitoring and detection of Microbes -- Nanomaterials in Environmental Analysis -- Nanodroplets and their Applications -- Green Nanofluids for Lubrication Applications -- Nanomaterials for Drug Delivery -- Supramolecules for Nanomaterial production.

Sommario/riassunto

This book highlights the various types of nanomaterials currently available and their applications in three major sectors: energy, health, and the environment. It addresses a range of aspects based on the fact that these materials' structure can be tailored at extremely small scales to achieve specific properties, thus greatly expanding the materials science toolkit. Further, the book pursues a holistic approach to nanomaterial applications by taking into consideration the various stakeholders who use them. It explores several applications that could potentially be used to improve the environment and to more efficiently and cost-effectively produce energy, e.g. by reducing pollutant production during the manufacture of materials, producing solar cells that generate electricity at a competitive cost, cleaning up organic chemicals that pollute groundwater, removing volatile organic compounds (VOCs) from the air, and so on. Given its scope, the book offers a valuable asset for a broad readership, including professionals, students, and researchers from materials science/engineering, polymer science, composite technology, nanotechnology, and biotechnology whose work involves nanomaterials and nanocomposites.
