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Nota di contenuto	Synthesis, characterization and general properties of carbon nanotubes / Falah H. Hussein, Firas H. Abdulrazzak, and Ayad F. Alkaim -- Synthesis and characterization of phosphorene : a novel 2D material / Sima Umrao, Narsingh R. Nirala, Gaurav Khandelwal, and Vinod Kumar -- Graphene for advanced organic photovoltaics / Tanvir Arfin and Shoeb Athar -- Synthesis of carbon nanotubes by chemical vapor deposition / Falah H. Hussein and Firas H. Abdulrazzak -- A review of pharmaceutical wastewater treatment with nanostructured titanium dioxide / Lavanya Madhura and Shalini Singh -- Nanosilica particles in food : a case of synthetic amorphous silica / Rookmoney Thakur and Shalini Singh -- Bio-sensing performance of magnetite nanocomposite for biomedical applications / Rajasekhar Chokkareddy, Natesh Kumar Bhajanthri, Bakusele Kabane, and Gan G. Redhi -- The importance of screening information DATA set in nanotechnology / Khan Ameera Bibi, Suruj Gitesh, and Shalini Singh -- Nanomaterials for biohydrogen production / Periyasamy Sivagurunathan, Abudukeremu Kadier, Ackmez Mudhoo, Gopalakrishnan Kumar, Kuppam Chandrasekhar, Takuro Kobayashi, and Kaiqin Xu -- A framework for using nanotechnology in military gear / Hlophe Nkosingiphile. Siphesihle,

Mbatha Precious Hlengiwe, and Shalini Singh -- Plasmonic nanopores : a new approach toward single molecule detection / Gaurav Khandelwal, Sima Umrao, Narsingh R. Nirala, Sadhana S Sagar, and Vinod Kumar -- Catalytically active enzyme mimetic nanomaterials and their role in biosensing / Narsingh R. Nirala, Sima Umrao, Gaurav Khandelwal, and Vinod Kumar.

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Sommario/riassunto

This timely volume on nanomaterials and their biomedical and environmental applications includes the fundamentals of nanoparticles, and state-of-the-art properties, characterization, and the synthesis methods as well as the applications. The main thrust of the book is to present review chapters that explore all these aspects of nanomaterials for scientists, engineers and students who are fairly new to the field and want to have a deeper understanding of all the recent R & D advances. The 12 chapters are written by subject matter experts and plot the influence of nanomaterials on the analytical systems (macro to micro & lab-on-a-chip) for biomedical and environmental applications.

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