

|                         |   |
|-------------------------|---|
| 1. Record Nr.           | UNINA9910139594103321   |
| Autore                  | Mukhopadhyay S  |
| Titolo                  | Nanoscale Multifunctional Materials [[electronic resource] ] : Science & Applications   |
| Pubbl/distr/stampa      | Hoboken, : Wiley, 2011  |
| ISBN                    | 1-283-25793-9<br>9786613257932<br>1-118-11405-1<br>1-118-11406-X<br>1-118-11403-5   |
| Descrizione fisica      | 1 online resource (428 p.)  |
| Classificazione         | TEC021000   |
| Disciplina              | 620.115   |
| Soggetti                | Diffusion<br>Nanostructured materials<br>Porous materials<br>TECHNOLOGY & ENGINEERING / Material Science<br>Technology and engineering -- Material science<br>Chemical & Materials Engineering<br>Engineering & Applied Sciences<br>Materials Science<br>Electronic books.  |
| Lingua di pubblicazione | Inglese   |
| Formato                 | Materiale a stampa  |
| Livello bibliografico   | Monografia  |
| Note generali           | Description based upon print version of record.   |
| Nota di contenuto       | NANOSCALEMULTIFUNCTIONALMATERIALS; CONTENTS;<br>CONTRIBUTORS; PREFACE; SECTION I OVERVIEW; 1 Key Attributes of Nanoscale Materials and Special Functionalities Emerging From Them; 2 Societal Impact and Future Trends in Nanomaterials; SECTION II PROCESSING AND ANALYSIS; 3 Fabrication Techniques for Growing Carbon Nanotubes; 4 Nanoparticles and Polymer Nanocomposites; 5 Laser-Assisted Fabrication Techniques; 6 Experimental Characterization of Nanomaterials; 7 Modeling and Simulation of Nanoscale Materials; SECTION III APPLICATIONS; 8 Nanomaterials for Alternative Energy |

9 Enhancement of Through-Thickness Thermal Conductivity in Adhesively Bonded Joints Using Aligned Carbon Nanotubes 10 Use of Metal Nanoparticles in Environmental Cleanup; 11 Use of Carbon Nanotubes in Water Treatment; 12 Peptide Nanotubes in Biomedical and Environmental Applications; INDEX

---

#### Sommario/riassunto

A multidisciplinary approach that explores the diverse properties, functions, and applications of nanomaterials. Drawing together the many scientific and engineering disciplines underlying the development of nanomaterials, *Nanoscale Multifunctional Materials* provides a multidisciplinary review of the diverse properties, functions, and applications of nanomaterials. The book examines both nanoparticles, which have larger-scale equivalents, and uniquely assembled nanomaterials, which do not have larger-scale equivalents. Readers will gain a tremendous appreciation of the versatility of nanomaterials.

---