

1. Record Nr.	UNINA9910789888703321
Titolo	Functional materials [[electronic resource]] : preparation, processing and applications // [edited by] S. Banerjee, A.K. Tyagi
Pubbl/distr/stampa	London, : Elsevier, 2012
ISBN	1-283-37488-9 9786613374882 0-12-385143-2
Edizione	[1st ed.]
Descrizione fisica	1 online resource (731 p.)
Collana	Elsevier insights
Altri autori (Persone)	BanerjeeS TyagiA. K
Disciplina	620.11
Soggetti	Molecular electronics - Materials Electrooptics - Materials Optoelectronics - Materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Front Cover; Functional Materials; Copyright Page; Contents; Preface; About the Editors; Contributors; 1 Soft Materials - Properties and Applications; 1.1 Introduction to Soft Matter; 1.1.1 Introduction; 1.1.2 Soft Matter: A Viscoelastic Fluid; 1.1.3 Shear Modulus and the Energy Density; 1.2 Intermolecular Interactions in Soft Materials; 1.2.1 Charge-Charge Interaction; 1.2.2 Ion-Dipole Interactions; 1.2.3 Dipole-Dipole Interactions; 1.2.4 Ion-Induced Dipole Interactions; 1.2.5 Dipole-Induced Dipole Interaction; 1.2.6 Induced Dipole-Induced Dipole Interactions; 1.2.7 Hydrogen Bonds 1.2.8 Hydrophobic Interactions 1.2.9 Depletion Interactions; 1.3 Colloids; 1.3.1 Interactions Between Colloidal Particles; van der Waals Interaction; Electrostatic Forces Between Surfaces; 1.3.2 DLVO Theory of Colloid Stability; 1.4 Surfactant Assemblies; 1.4.1 Surface Tension and Surface Activity; 1.4.2 Surfactant Aggregation and Hydrophobic Effect; 1.4.3 Thermodynamics of Micelle Formation; 1.4.4 Dynamics of Micelle Formation; 1.4.5 Phase Behaviour of Surfactants; 1.4.6 Packing Parameter and Bending Rigidity; 1.5 Polymer Solutions; 1.5.1 Introduction; 1.5.2 Conformations of Polymer Chains

1.5.3 Size of a Freely Jointed Chain; 1.5.4 Size of an Ideal Chain with Fixed Bond Angle; 1.5.5 Flexibility of a Polymer Chain; 1.5.6 Polymer Gels; 1.5.7 Theories of Gelation; Classical Theory or Flory-Stockmayer Model; Percolation Theory; 1.5.8 Polyelectrolytes and Counterion Condensation; Counterion condensation; 1.6 Experimental Techniques in Soft Matter; 1.6.1 Scattering Techniques; Light Scattering; Static Light Scattering; Dynamic Light Scattering; Small-Angle Neutron Scattering; Contrast Factor; Determination of Intraparticle Structure; Polydisperse Particles; Guinier Approximation Porod Law; Determination of Interparticle Structure Factor; Small-Angle X-Ray Scattering; 1.6.2 Microscopy; Cryo-Transmission Electron Microscope; 1.6.3 Rheology; 1.7 Applications of Soft Matter; 1.7.1 Stimuli Responsive Materials; 1.7.2 Soft Materials in Drug Delivery; 1.7.3 Nanotechnology Using Soft Materials; 1.7.4 Oil Field Applications; References; 2 Conducting Polymer Sensors, Actuators and Field-Effect Transistors; 2.1 Introduction; 2.2 Synthesis of Conducting Polymers; 2.2.1 Synthesis of Bulk and Fibre Polyindole; 2.2.2 Synthesis of Crystalline Polyaniline; 2.2.3 Films of Conducting Polymers; 2.3 Conducting Polymer Gas Sensors; 2.3.1 Configuration of Chemiresistor Sensors; 2.3.2 Polycarbazole Langmuir-Blodgett Film-Based Sensors; 2.3.3 Polyaniline Nanofibre Sensors; 2.3.4 Composite Poly(3-hexylthiophene):ZnO-Nanowire-Based NO₂ Sensors; 2.3.5 Composite Polypyrrole:ZnO-Nanowire-Based Chlorine Sensor; 2.4 Electrochemical Actuators; 2.4.1 Fabrication of PPy-DBS/Au Free-standing Film; 2.4.2 PPy-DBS/Au Free-standing Film as Actuator; 2.5 Conducting Polymer FETs; 2.5.1 Fabrication of Top-Contact FET; 2.5.2 Characteristics of P3HT Active Layer; 2.5.3 Transistor Characteristics of P3HT Active Layer

Sommario/riassunto

Functional materials have assumed a very prominent position in several high-tech areas. Such materials are not being classified on the basis of their origin, nature of bonding or processing techniques but are classified on the basis of the functions they can perform. This is a significant departure from the earlier schemes in which materials were described as metals, alloys, ceramics, polymers, glass materials etc. Several new processing techniques have also evolved in the recent past. Because of the diversity of materials and their functions it has become extremely difficult to obtain info

2. Record Nr.	UNINA9910975234403321
Titolo	Quantum communication and security // edited by Marek Zukowski, Sergei Kilin and Janusz Kowalik
Pubbl/distr/stampa	Amsterdam, Netherlands ; ; Washington, DC, : IOS Press, c2007
ISBN	6611029745 1-281-02974-2 9786611029746 1-60750-248-8 600-00-0531-8 1-4356-0857-7
Edizione	[1st ed.]
Descrizione fisica	1 online resource (248 p.)
Collana	NATO science for peace and security series. Sub-series D, Information and communication security, , 1874-6268 ; ; v. 11
Altri autori (Persone)	ZukowskiM KilinS. IA (Sergei IAkovlevich) KowalikJanusz S
Disciplina	003/.54
Soggetti	Quantum communication - Security measures Cryptography Quantum theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Proceedings of the NATO Advanced Research Workshop on Quantum Communication and Security, Gdansk, Poland, 10-13 September 2006." --T.p. verso. "Published in cooperation with NATO Public Diplomacy Division."
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Title page; Preface; List of Speakers; Technical Summary of the Workshop; Contents; Quantum Cryptography; Theory of Quantum Information; Production of Entangled States, Experimental Techniques; Quantum Communication and Computation; Author Index
Sommario/riassunto	Aims to assess the state-of-the-art in the field of Quantum Communication and Security and to identify research challenges. This book concentrates mainly on quantum cryptography, general problems of theoretical quantum information and its realizations, and the related topics concerning quantum theory itself - the most fundamental questions.

