About The Book

The quest for sustainable solution has emerged as a paramount priority in the realm of scientific exploration. This book on 'Advanced Functional Materials for Sustainable Environment' stands as a beacon of exemplary progress towards a greener and more harmonious global ecosystem. This book provides an extensive survey of cutting-edge research in the field of functional materials, with a particular emphasis on energy harvesting, storage, and environmental monitoring.

The chapters contained within delve into the intricate complexities of electronic, magnetic , optical, adaptive, and dielectric materials, laying the foundation for innovative functionalities. Encompassing domains such as energy conversion, storage, and environmental awareness, this compendium represents a meticulous exploration of contemporary materials science.

The collaborative efforts underlying this book underscore a shared commitment to foster a sustainable future. Each chapter offers insights that not only stimulate intellectual curiosity but also harbours the potential to catalyse future innovations."Advanced Funcational Materials for Sustainable Environment" not only enhances our understanding of materials science but also offers practical solutions to pressing global issues.

Table of Content

14) Antiferroelectricity : Advancements and Prospects in Future Applications
15) performance Improvement in Heterojunction Solar Cell by Introducing MoSe2 Ingenious Hole Transport Layer
16) Fabrication of Silicon Nanowires for Solar Cell and Sensor Applications
17) Thermoelectric Response of Vacancy Order Double Perovskite K2PtBr6 for Energy Harvesting Applications
18) Growth , Characterization and Pyroelectric Study of Pure and Lanthanum Doped PZT Film.
19) Comparative Performance Analysis of Heterojunction Solar Cell by Inserting Cu2O as a Back Surface Layer Using SCAPS-ID

Part-V Carbon Based Structures for Energy and Environment Applications

20) Advancing Energy Storage: The Role of Carbon-based Materials in Energizing Tomorrow
21) NaCMC- based Biopolymer Composite Electrolytes for Supercapacitor Applications
22) Biomass-derived Carbon Coupled with NiCo2O4 as an effective Electrode Material for High-performance Supercapacitor
23) Hydrothermally Prepared NiCo2O4/ Biocarbon Composite Nanoparticles: Application of Energy Storage Devices
24) Carbon Nanotubes and its Composites in Sensing of Drugs and Pesticides

Part-VI materials for EMI Shielding

25 Ku-band Radiation Shielding Response of Thin Film