

Advanced Book Information

Carbonaceous Composite Materials

Eds. Gaurav Sharma, Amit Kumar

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This book reports current progress in the development, design and utilization of carbonaceous materials in such diverse areas as electronics, medical implants, drug delivery, clean energy, biofuel and pollution control.

Keyword: Carbonaceous Materials, Carbons, Graphite, Biochar, Fullerenes, Graphene, Carbon Foam, Carbon Nanotubes, Graphene Oxide, Graphitic Carbon Nitride, Carbon Aerogels, Carbon Matrix Composites, Organic-inorganic Hybrid Materials, Building Materials, Carbon-based Composites, Carbon Matrix Polymer Composites, Conducting Polymers, Clean Energy, Energy Storage, Electrode Materials, Batteries, Supercapacitors, Fuel Cells, Catalysts, Bio-fuel Production, Organic Pollutants, Catalysts, Greenhouse Gas Sequestration, Climate Control, Bio-medical Applications, Biomass Applications, Smart Hybrids, Photocatalysts, Hydrogen Production, Contaminants Degradation, Pollution Control

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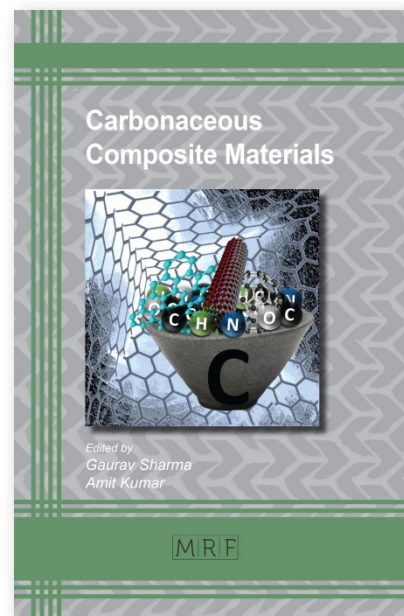
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Summary:

This book reports current progress in the development, design and utilization of carbonaceous materials in such diverse areas as electronics, medical implants, drug delivery, clean energy, biofuel and pollution control. Emphasis is placed on “engineered carbons” which include fullerenes, graphene, carbon foam, nanotubes, graphene oxide, carbon aerogels, carbon matrix composites, reinforced polymers and many others.

For example, ceramic composites and polymer composites with a carbon matrix represent advanced building materials and are important for moisture resistant walls and paints. Carbon nanotubes, conducting polymers and graphene based materials play a great role in energy storage in form of electrodes for batteries and supercapacitors. Carbon based materials are both used as sources as well as catalysts for bio-fuel production. Biochar can be utilized for soil enrichment and greenhouse gas sequestration and climate control applications. Graphene is extensively used in electronics and bio-medical applications. Graphene oxide, reduced graphene oxide and graphitic carbon nitride are used as photocatalysts for hydrogen production and contaminants degradation.



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Handbook / color print, paperback

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