Record Nr. UNINA9910746291003321 Autore Nadda Ashok Kumar **Titolo** Biochar and its Composites: Fundamentals and Applications / / edited by Ashok Kumar Nadda Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2023 Pubbl/distr/stampa 9789819952397 **ISBN** 9819952395 Edizione [1st ed. 2023.] Descrizione fisica 1 online resource (241 pages) Collana Materials Horizons: From Nature to Nanomaterials, , 2524-5392 Disciplina 662.88 Soggetti **Biomaterials** Materials Carbon Chemistry Composite materials **Biosynthesis** Carbon Materials Composites Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Introduction of Biochar: Sources, Composition, and Recent Updates --Biochar in Catalysis and Biotransformation -- Biochar: A Potent Adsorbent -- Biochar in Carbon Sequestration -- Biochar for Management of Wastewater -- Biochar for Climate Change Mitigation -- Clay-biochar Composites for the Agriculture Industry -- New Trends in Biochar - Mineral Composites -- Magnetic Composites of Biochar and its Applications -- Biochar Composites for Environmental and **Energy Applications.** Sommario/riassunto The book discusses the commercial applications of biochar and its composites. Biochar prepared from pyrolysis of waste biomass is gaining widespread attention in environmental remediation due to its

multifaceted benefits. This book explores these possible applications of

contaminated sites. It also emphasizes the role of biochar engineering

biochar in water treatment and removal of pollutants from the

through different physical and chemical methods to enhance structural and physicochemical properties of biochar such as surface area, porosity and surface functional group. It also focuses on the diverse source of biomass that can be used for biochar production, different methodologies for biochar preparation and biochar engineering for improvement of its properties. Finally, it describes all the applications of biochar that can contribute to environmental remediation and sustainability. Given the contents, the book will be useful for students, researchers and professionals in the area ofenvironmental chemistry and material science.