Record Nr. UNINA9911034938403321 Autore George Soney C Titolo Advanced Bionanocomposite Materials: Innovations for Sustainable Development / / edited by Soney C. George, Benjamin Tawiah Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2025 Pubbl/distr/stampa **ISBN** 981-9682-25-8 Edizione [1st ed. 2025.] Descrizione fisica 1 online resource (800 pages) Collana Advanced Structured Materials, , 1869-8441; ; 241 Altri autori (Persone) TawiahBenjamin Disciplina 530.41 620.115 Soggetti Nanoscience Biomaterials Composite materials Sustainability Nanobiotechnology **Nanophysics** Composites Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Bionano Composite Materials for Sustainable Development --Biomaterials Fabrication of Advanced Bionano Composites A Sustainable Approach -- Bioprepregs and Hybrid Fiber Reinforced Bionano Composites -- Smart and Adaptive Bionano Composite Materials Processing and Fabrication -- Advanced Characterization and Properties of Bionano Composite Materials. Sommario/riassunto This book explores the integration of bio nanotechnology and composite materials, emphasizing their potential for promoting sustainability. This book discusses bionano composites, which combine biological components with nanotechnology to enhance performance while minimizing environmental impact. This is particularly relevant given the increasing environmental concerns and the need for sustainable alternatives to traditional materials. The synergy between

these materials results in composites that are not only high performing

sustainable materials that can replace conventional petroleum-based

but also environmentally friendly. This is crucial for developing

composites, which are often linked to significant environmental degradation. Furthermore, this book examines the diverse applications of bionano composites in various sectors such as packaging, construction, automotive, and biomedical fields. This book serves as a vital resource for researchers and industry professionals interested in sustainable materials that aligns with the UNDP SDGs 2030 target. In addition to students, teachers, and researchers in the areas of firm behavior, public economics, public administration, and public policy, this book is also of great interest to policy makers, planners, and nongovernment agencies who are concerned with understanding and addressing issues related to the cooperation of government and social capital in developed and developing countries.