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Autore	Oakley Jeffrey S
Titolo	Accident investigation techniques / / Jeffrey S. Oakley
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Autore	Kesari Kavindra Kumar
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Collana	Engineering Materials, , 1868-1212
Altri autori (Persone)	PrakashChander KhalidMohammad NegiArvind
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Nota di contenuto	Chapter 1. Unveiling the Transformative Power of Smart Cellulosic Nanomaterials: Revisiting Potential Promises to Sustainable Future (Abhijeet Singh) -- Chapter 2. Sustainable cellulose films as packaging (coating) materials to reduce plastic use (Mavia Rashid) -- Chapter 3. Collagen Fusion with Natural Biopolymers in Food Packaging: An In-Depth Review from Conceptualization to Consumer Application (Malavika Jayaprakash) -- Chapter 4. Cellulose-Based Packaging: An Emerging Sustainable Packaging Option for Future Use (Pavada Madhusudan Rao) -- Chapter 5. Emerging Approaches in Hydrogen Production from Biomass (Niranjan Patra) -- Chapter 6. Comparative Analysis of Nanomaterials and Artificial Intelligence for Sustainable Nutrient Management in Soil (Madhu Bala) -- Chapter 7. Biocompatible Cellulose Derivatives: Green Chemistry and its Sustainable Applications (Debangana Das) -- Chapter 8. Advancements in Cellulose-Based Materials for CO2 capture and conversion (Niranjan Patra) -- Chapter 9. Turning cigarette butts (CBs) into valuable resources: Technical potential and drawbacks (Hamza El Fadili) -- Chapter 10. Conversion of Smart Nanomaterials to Achieve Sustainable Goals (Mavia Rashid) -- Chapter 11. Smart Sustainable Materials: A Blueprint for a Better Tomorrow (Harshita Thakur) -- Chapter 12. Game Changer: How Cellulose-Based Bioleather is Transforming the Market (Gaurav Mudgal).
Sommario/riassunto	This book explores the innovative landscape of functionalized cellulose materials, emphasizing sustainable manufacturing practices and their wide-ranging applications. Advanced functional materials have seen extensive utilization across various sectors, including food processing, pharmaceuticals, cosmetics, electronics, textiles, environmental management, healthcare, and energy, all of which align with the Sustainable Development Goals (SDGs). These materials can be synthesized from both organic (primarily plant-based) and inorganic sources, utilizing sustainable biomass such as wheat, rice straw, wood fibers, and other renewable resources, with or without the incorporation of polymers and nanomaterials. Featuring contributions from leading international researchers, this book provides a comprehensive overview of current challenges and advances in materials science and advanced manufacturing across diverse industries, including cellulose films, aerospace, automotive, marine, and biomedical fields. It covers state-of-the-art topics such as additive manufacturing, 3D printing, bio-manufacturing, and intelligent manufacturing systems. The book highlights key innovations and practical applications of cellulose-based functionalized materials, such as hydrogels, drug delivery platforms, and biomaterials. This field continues to expand through interdisciplinary collaboration, fostering advancements in green chemistry, sustainable manufacturing practices, and materials engineering while addressing pressing challenges in sustainability and circular economy frameworks.