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Nota di contenuto	Introduction to Biocompatible Nanomaterials -- Introduction to Multifunctional Sensors -- Synthesis of Biocompatible Nanomaterials -- Characterization Techniques of Biocompatible Nanomaterials -- Green Synthesized Nanocomposites for Mercury Lead and Cadmium Detection -- Challenges and Future Directions in Heavy Metal Ion Sensing -- Nanomaterials for Uric Acid Urea and Creatinine Sensing -- AI and IoT Integration in Biomolecular Sensing Systems -- Eco friendly Synthesis of Nanomaterials for Pesticide Sensing -- Field Deployable Pesticide Sensors Innovations and Challenges -- Nanostructured Electrochemical Sensors for Antibiotic Detection -- Biocompatible Nanomaterials Based Sensors for Environmental and Biomedical Applications -- Summary Real world Applications Commercialization and Scalability.
Sommario/riassunto	This contributed volume explores the synthesis, characterization, and application of biocompatible nanomaterials for multifunctional sensor technologies, covering detection systems for heavy metal ions,

biomolecules, pesticides, and pharmaceutical drugs. It integrates cutting-edge approaches, including AI and IoT, to enhance sensor performance, alongside discussions on green synthesis, real-world applications, commercialization, and scalability. A valuable resource for researchers, engineers, and professionals in nanotechnology, biosensing, environmental monitoring, and healthcare diagnostics, this book bridges fundamental concepts with innovative advancements in sustainable and high-performance sensing solutions.
