1. Record Nr. UNINA9911020422803321

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Titolo	Nanosafety : A Comprehensive Approach to Assess Nanomaterial Exposure on the Environment and Health / / edited by Ernesto Alfaro-Moreno, Fiona Murphy
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	3-031-93871-2
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (880 pages)
Altri autori (Persone)	MurphyFiona
Disciplina	615.90072
Soggetti	Nanostructured materials - Toxicology Nanostructured materials - Transport properties
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Nanotoxicology probing established paradigms using innovative approaches -- Use of sensors to provide real time assessment of cellular responses to nanomaterials in in vitro systems -- Recreating physi logical events using advanced in vitro models -- Emerging strategies for nanosafety assessment the power of multiplexing -- Genotoxicity and Epigenetics How nanomaterials interact with DNA and gene expression -- Section Two Bridging in vitro in vivo models Assessing nanomaterial hazard with lower tier organisms, reducing reliance on rodent models and ensuring sustainability in nanosafety approaches -- Caenorhabditis elegans as a model organism to probe nanosafety from morphological to molecular approach -- Drosophila melanogaster a dynamic in vivo model to study nano bio interactions -- Zebrafish embryos as a tool for nanomaterials hazard assessment -- Daphnia as a model organism in econanotoxicity assessment from individual to population effects -- Organ on a chip and nanosafety The latest in vitro platforms to predict hazard and streamline nanosafety assessment -- Skin on a chip -- Lung on a chip -- Gut on a chip -- Systems on a chip -- Computational approaches to nanosafety From traditional QSAR to Artificial Intelligence and Life Cycle Assessment -- Leveraging Opportunities for Computer Aided Nanosafety Integrating Nano QSTR with AI Generalized Read Across Models -- Advanced Structure Based Docking Protocols for Complex Nano Mixtures Risk

	Assessment -- Building Multiple Machine Learning Classifiers to Address Nanomaterial Risks Assessment -- Life Cycle Assessment a broader view of nanomaterials beyond biological effects.
Sommario/riassunto	Nanosafety encompasses a spectrum of multidisciplinary studies, including nanotoxicology, immunotoxicology, genotoxicity, and epigenetic effects. Nanomaterials, with their unique properties and diverse applications, have revolutionized industries from medicine to electronics. However, the potential risks associated with their use demand meticulous investigation and understanding. This open access book serves as a crucial resource, bridging the gap between the burgeoning field of nanotechnology and the imperative need to ensure the safety of nanomaterials in various contexts. As nanotechnology continues to transform our world, this book provides invaluable insights and guidance for researchers, policymakers, and industries, ensuring the responsible and safe development of nanomaterials and their applications in the 21st century.