

Nanotoxicology

Progress toward Nanomedicine, Second Edition

Editors/Affiliations

Nancy A. Monteiro-Riviere, Kansas State University, Manhattan, USA
C. Lang Tran, Institute of Occupational Medicine, Edinburgh, UK

Since the first publication of this book in 2007, the field of nanoscience and nanomedicine continues to grow substantially. This second edition documents the continuing development of essential tools for the characterization of engineered nanomaterials (ENM) and for *in vitro* and *in vivo* toxicity testing. Exploring the contribution of nanosafety research to nanomedicine, the editors enlist internationally recognized experts who examine the basics and the rationale for the safe design of engineered nanomaterials (ENM). Topics include new improved characterization endpoints, screening, and detection methods for *in vitro* and *in vivo* toxicity testing. These tools also contribute greatly to nanosafety research applied to nanomedicines.

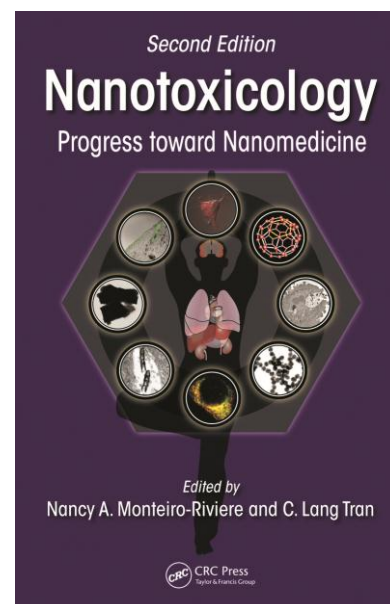
Key Features

- Explores the biological interactions of nanomaterials with biological systems
- Reviews latest advances in nanotoxicology and nanomedicine with detection methods and advanced methodologies for assessing nanomaterials
- Discusses exposure, modeling, methodologies and techniques, hazards, and risk assessment applicable to occupational and health, nanomedicine, the environment, and life sciences
- Examines hazards of nanomaterials to the dermal, respiratory, immune, cardiovascular, neuro, and reproductive systems, along with interspecies comparisons and genotoxicity issues
- Includes all new sections on cell-based targeting and biomedical applications and nanofabrication for medical devices
- Outlines risk assessment of nanomaterials
- Provides a roadmap for future research for nanomaterials

Selected Contents

Impacts of Nanotechnology on Biomedicine. Exposure. Modeling. Methodologies and Techniques. Risk Assessment.

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