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## *Preface*

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This book is a comprehensive reference book containing in-depth information on nanoecotoxicity and its implication in various disciplines of sciences. The chapters focus on the causes and prevention of toxicity induced by various nanomaterials. This book foresees the safe utilization of nanotechnology, so that the tremendous prospective of nanotechnology does not harm living beings and environment. Nanomaterials leach from nanomaterial-containing products and contaminate the basic components of environment, air, water, and soil. Every living organism, including terrestrial, aquatic, and amphibians, is in continuous contact with the physical components of environment. Further, advances in the synthesis of nanomaterials leading to desired size, shape, and surface properties will increase their burden on the environment.

At present there is complete uncertainty regarding toxicity behavior of nanomaterials. There is no clarity how nanomaterials will behave once in complex environment. The future of nanomaterials in various industries depends upon their impact on environment and ecosystem. This book critically describes all these aspects of nanotoxicity in detail. The book includes an introduction to nanoecotoxicity, various factors affecting toxicity of nanomaterials, various factors that can impart nanoecotoxicity, various studies in the area of nanoecotoxicity evaluation, and the future risk assessment strategies.

The book contains contribution from international experts and will be a valuable resource for undergraduate and graduate students, doctoral and postdoctoral scholars, industrial personnel, academicians, scientists, researchers, and policy makers from different nanotechnology-associated industries. The book will be beneficial for graduate students to understand the detailed concept of nanoecotoxicology. The book will be beneficial to doctoral and postdoctoral scholars as they can learn the basics of techniques, recent advancements, challenges, and opportunities in this field. This book will provide critical and comparative data to nanoecotoxicologists, and thus it will be beneficial for scientists and researchers working in this field. This book will also be beneficial for academicians to give the basics of nanoecotoxicology as many universities throughout the world have nanobiotechnology as a subject that cannot be completed without discussing nanoecotoxicology.

Once in environment, nanomaterials will affect you.

—*Vineet Kumar*

Dedicated to those who are suffering because of hazardous materials.

—*Dr. Nandita Dasgupta and Dr. Shivendu Ranjan*