

## Molecular, Clinical and Environmental Toxicology

Volume 3: Environmental Toxicology

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# Preface

With this third and last volume the current overview on modern toxicology finally comes to an end. Certainly, as with any other living scientific discipline this is of temporary and short nature only. The progress is fast, because modern toxicological research benefits from many areas of basic sciences and medical disciplines in a unique way. Since toxicology ultimately is aimed at detecting compound-mediated harm and preventing or counteracting any damage that might result from exposures to certain compounds, applied and translational research in this field rapidly moves into clinical applications and/or public health decision making. Therefore, progress in toxicological sciences is always under special notice and usually receives broad attention and appreciation by the general public. On the other hand—of course!—tight environmental legislation triggered by public pressure not always will be welcomed from any side, in particular if analytical and technological measures required to monitor and to reduce the release of potentially harmful compounds will be of high financial investment. Still, despite some irrationality and “chemophobia” in the context of synthetic chemicals, long-term acceptance and a widespread and general public support of modern chemical industries and chemical progress will be only achievable through transparency, authoritative chemical monitoring (including biomonitoring), and reliable toxicological assessments. In addition, it will be crucial to ensure the exclusion of any considerable increases in health risks beyond the background levels that have been established and people were gotten adapted to during the absence of the chemicals and products that are intended to be newly introduced to the consumer market.

It came without much surprise that the entire book project finalized today turned out as a great challenge and to cover almost all of the relevant fields and aspects of this great interdisciplinary scientific discipline was not always easy. Everything relied on the efforts and dedication of individuals who were willing to contribute with excellent and comprehensive reviews on particular topics in modern toxicology. Altogether it was possible to gather more than 100 experts covering all fields and expertise required for this comprehensive three-volume overview on *Molecular, Clinical & Environmental Toxicology*.

The third and last volume focuses on environmental toxicology and encompasses topics and certain kinds of chemical classes that have gained importance in toxicological research due to their inherent biological activity and their abundance in the human and natural environment. At the same time, more recent and “modern” research areas in the fields of, for instance, toxicity of mixtures, nanotoxicology, endocrine-disrupting chemicals, low-dose effects, and epigenetics will also be discussed in the present volume. My deep gratitude goes to all of the authors who were highly engaged and focused to deliver a nice piece of work and to make this project finally successful.

I believe that advanced students and instructors of toxicology and public health will benefit from this overview on modern toxicology and toxicological research, which, in great parts, emphasizes and illuminates molecular mechanisms and toxicokinetics rather than just providing descriptive accounts. With this, it contributes to the distribution of established scientific knowledge in the community and therefore will help to lay the ground for a more serious and science-based discussion of the adverse health effects of synthetic chemicals and biogenic products, thereby leading to a greater rationality in the assessment of health and environmental risks that may be associated with the exposure against such compounds.

At the end, I again want to express my special gratitude toward the publishing house, and here in particular to Dr. Beatrice Menz, who was very focused and propulsive in pushing the editor over the finishing line. Honestly, my special thanks for this to her in a personally difficult and wasting period of time in my life.

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