

# Preface

Worldwide human activities are increasingly threatening the environment. Scientists have long been concerned about the effect of pollutants on biota, at the different levels of biological organization, from organisms to ecosystems. In the early 1960s, the emergence of ecotoxicology sensitized society to the harmful effects on the environment of human activities. Recent advances in microbial ecology enrich ecotoxicology with ***Microbial Ecotoxicology***, which aims to investigate the effect of pollutants on microorganisms and, in turn, the role of microorganisms in determining the fate of pollutants. Several initiatives have proposed to promote ***Microbial Ecotoxicology***, organize the scientific community to smooth research exchanges, and facilitate interdisciplinary studies (Ghiglione et al. 2014, 2016; Gu and Wang 2014). Such initiative corresponds to an increasing demand from worldwide politics and society in front of the intense human activities threatening the environmental health. In this context, we believe that it is now time to compile microbiological studies that adopt an ecotoxicological point of view in order to show the multifacets of ***Microbial Ecotoxicology***. The present book is a treatise on ***Microbial Ecotoxicology*** covering the effect of pollutants on microbial ecosystems and the role of microorganisms in ecosystems services. Emphasizing the microbial responses to pollution at different biological levels, this book focuses on metabolic pathways, genetic adaptation, and response at the whole microbial community level. This book also addresses the ecological indicators of ecosystem recovery, as well as microbial biomarkers and biosensors as tools for ***Microbial Ecotoxicology***. In order to cover all these aspects, we have contacted worldwide scientists who have contributed significantly in the advances of ***Microbial Ecotoxicology***. We would like to thank all the authors that have contributed with review chapters. We also thank all colleagues that have accepted to evaluate and comment on the submitted chapters, and their review is essential to guarantee the scientific quality and improve the contributions.

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