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ISBN	3-662-66547-6
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (611 pages)
Disciplina	579.17
Soggetti	Microbial ecology Microbiology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Global Environment. Climate and microorganisms -- Microorganisms, actors in the environment -- Relationship between microbial energy production and material cycles -- Carbon cycle -- Environmental chemicals -- Microbial degradation of pollutants -- The microbial nitrogen cycle -- Cycles of sulfur, iron and manganese -- Heavy metals and other toxic inorganic ions -- Microorganisms at different sites: living conditions and adaptation strategies -- Microbial communities. Structural and functional analyses with classical approach -- Microbial communities. Structural and functional analyses with molecular biological approach -- Damage to inorganic materials by microbial activities, biocorrosion -- Biological wastewater treatment -- Biological exhaust air treatment -- Biological soil remediation -- Biological waste treatment -- Biotechnology and environmental protection -- Food for thought.
Sommario/riassunto	This textbook addresses global and local environmental problems and the involvement of microorganisms in their development and remediation. In particular, methodological aspects, some of them molecular genetic, for the study of microbial communities are considered. Overall, the prominent role of microorganisms in various material cycles is presented. In addition to biochemical principles for the degradation of environmental pollutants, the use of microorganisms in environmental biotechnological processes for the

purification of air, water or soil as well as in environmentally friendly production processes is discussed. The book is intended for biologists with an interest in environmental microbiological issues, but also for students of process or environmental engineering, geoecology or geology, as well as students of other environmental science disciplines. For the 3rd edition, the authors have completely revised, corrected, updated and supplemented the book. The authors Professor Dr. Walter Reineke was Professor of Microbiology at the University of Wuppertal since 1982, where he was involved in teaching both the Food Chemistry and Chemistry courses. He has been retired since August 2013. Professor Dr. Michael Schlömann was appointed Endowed Professor of Environmental Microbiology of the Deutsche Bundesstiftung Umwelt at the Technische Universität Bergakademie Freiberg in 1998 and has been Deputy Director of the University's Interdisciplinary Ecological Centre since 1999. This book is a translation of an original German edition. The translation was done with the help of artificial intelligence (machine translation by the service DeepL.com). A subsequent human revision was done primarily in terms of content, so that the book will read stylistically differently from a conventional translation.

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