

1. Record Nr.	UNINA9910688389203321
Titolo	Microorganisms // edited by Miroslav Blumenberg, Mona Shaaban, Abdelaziz Elgaml
Pubbl/distr/stampa	[Place of publication not identified] : , : IntechOpen, , 2020 ©2020
Descrizione fisica	1 online resource (320 pages)
Disciplina	576
Soggetti	Microorganisms
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Sommario/riassunto	<p>The recent breakthrough in microbial studies has applied next-generation sequencing (NGS), a massive omics analysis, to the composition and structure of microbial communities. NGS can identify microbes without the need for their cultivation. Their mere presence can be ascertained and often quantitated, and even their metabolic capabilities of microbial constituents predicted. This breakthrough led to an explosive growth in research on microbes. Many important advances have been made in human health-related studies. Indeed, gut microbial communities have been extensively analyzed and differences between healthy and diseased microbiomes have been determined. Studies of the effects of changes of diet, of antibiotic treatments, and of probiotics have been published. Specific attention has been devoted to human pathogens, their mechanisms of causing disease, and the potentials for their management and treatment. Microbiome studies of natural habitats, terrestrial and aquatic, have also benefited from NGS methodology. Increased understanding of the microbial communities has led to the use microbes as antagonists of pathogens, i.e. as treatments. Moreover, novel uses of microbes in industrial processes, either for synthesis of important compounds or for degradation and handling of waste, are being devised. In this volume, chapters dealing with the cutting-edge research in all these fields are presented.</p>

