1. Record Nr. UNINA9910253909603321

Titolo	Adaption of Microbial Life to Environmental Extremes : Novel Research Results and Application / / edited by Helga Stan-Lotter, Sergiu Fendrihan
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017
Edizione	[2nd ed. 2017.]
Descrizione fisica	1 online resource (X, 342 p. 46 illus., 41 illus. in color.)
Disciplina	579.17
Soggetti	Microbial ecology Microbiology Biodiversity Microbial Ecology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	1.Physico-chemical boundaries of life -- 2.Microbial diversity in deep hypersaline anoxic basins -- 3.Microbial speciation in the geothermal ecosystem -- 4.Bacterial adaptation to hot and dry deserts -- 5. Extremophiles in Antarctica: Life at low temperatures -- 6. Anhydrobiotic rock-inhabiting cyanobacteria: Potential for astrobiology and biotechnology -- 7.Psychrophilic microorganisms as important source for biotechnological processes -- 8.Halophilic microorganisms from man-made and natural hypersaline environments: Physiology, ecology, and biotechnological potential -- 9.Applications of extremophiles in astrobiology: Habitability and life detection strategies -- 10.Extremophiles in spacecraft assembly clean rooms -- 11.The Extreme Biology of Meteorites: Their Role in Understanding the Origin and Distribution of Life on Earth and in the Universe.
Sommario/riassunto	This entirely updated second edition provides an overview on the biology, ecology and biodiversity of extremophiles. Unusual and less explored ecosystems inhabited by extremophiles such as marine hypersaline deeps, extreme cold, desert sands, and man-made clean rooms for spacecraft assembly are presented. An additional focus is put

on the role of these highly specialized microorganism in applied research fields, ranging from biotechnology and nanotechnology to astrobiology. Examples such as novel psychrophilic enzymes, compounds from halophiles, and detection strategies for potential extraterrestrial life forms are discussed in detail. The book addresses researchers and advanced students in the fields of microbiology, microbial ecology and biotechnology.