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Note generali	Includes index.
Nota di contenuto	Volcanic steam vents : life at low pH and high temperature / Richard L. Weiss Bizzoco and Scott T. Kelley -- Rio Tinto : an extreme acidic environmental model of astrobiological interest / Ricardo Amils and David Fernandez-Remolar -- Blossoms of rot : microbial life in saline organic-rich sediments / Adrian-Stefan Andrei, Paul-Adrian Bulzu and Horia Leonard Banciu -- The haloarchaea of Great Salt Lake as models for potential extant life on Mars / Madelyn Bayles [and eight others] -- Arsenic- and light hydrocarbon-rich hypersaline soda lakes and their resident microbes as possible models for extraterrestrial biomes / Ronald S. Oremland -- Antarctic bacteria as astrobiological models / Carmel Abbott and David A. Pearce -- Extremophilic life in our oceans as models for astrobiology / Robert Y. George -- Challenging the survival thresholds of a desert cyanobacterium under laboratory simulated and space conditions / Daniela Billi -- Lichens as astrobiological models : experiments to fathom the limits of life in extraterrestrial environments / Rosa de la Torre Noetzel and Leopoldo Garcia Sancho -- Resistance of the archaean Halococcus morrhuae and the biofilm-forming bacterium Halomonas muralis to exposure to low Earth orbit for 534 days / Stefan Leuko [and six others] -- The amazing

journey of *Cryomyces antarcticus* from Antarctica to space / Silvano Onofri [and three others] -- Tardigrades : evolutionary explorers in extreme environments / K. Ingemar Jonsson -- Spore-forming bacteria as model organisms for studies in astrobiology / Wayne L. Nicholson -- Potential energy production and utilization pathways of the Martian subsurface : clues from extremophilic microorganisms on Earth / Varun G. Paul and Melanie R. Mormile -- Origin of initial communities of thermophilic extremophiles on Earth by efficient response to oscillations in the environment / Vladimir N. Kompanichenko and Vladimir F. Levchenko -- Extremophiles and horizontal gene transfer : clues to the emergence of life / Sohan Jheeta -- What do the DPANN archaea and the CPR bacteria tell us about the last universal common ancestors? / Charles H. Lineweaver -- Can biogeochemistry give reliable biomarkers in the solar system? / Julian Chela-Flores.

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Sommario/riassunto

"The data in this book are new or updated, and will serve also as Origin of Life and evolutionary studies. Endospores of bacteria have a long history of use as model organisms in astrobiology, including survival in extreme environments and interplanetary transfer of life. Numerous other bacteria as well as archaea, lichens, fungi, algae and tiny animals (tardigrades, or water bears) are now being investigated for their tolerance to extreme conditions in simulated or real space environments. Experimental results from exposure studies on the International Space Station and space probes for up to 1.5 years are presented and discussed. Suggestions for extraterrestrial energy sources are also indicated"--

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