

Over the last two decades, exploration of the deep subsurface biosphere has developed into a major research area. New findings constantly challenge our concepts of global biogeochemical cycles and the ultimate limits to life. In order to explain our observations from deep subsurface ecosystems it is necessary to develop truly interdisciplinary approaches, ranging from microbiology and geochemistry to physics and modeling. This book aims to bring together a wide variety of topics, covering the broad range of issues that are associated with deep biosphere exploration. Not only does the book present case studies of selected projects, but also treats questions arising from our current knowledge or lack thereof. Despite nearly two decades of research, there are still many boundaries to exploration caused by technical limitations and one section of the book is devoted to such technical challenges and the latest developments in this field. This volume will be of high interest to biologists, chemists and earth scientists all working on the deep biosphere.

- ▶ Unique overview of the challenges in researching the deep biosphere
- ▶ Treats both marine and terrestrial environments
- ▶ Fascinating case studies of selected projects

THE SERIES LIFE IN EXTREME ENVIRONMENTS

The series publishes topical volumes in the rapidly growing field of microbial life in extreme environments. This includes all habitats at the edge of survivability ranging from equatorial to polar regions, from marine to terrestrial environments and from surface to deep ecosystems. Environmental niches that are for instance characterized by extraordinarily hot, cold, acidic, alkaline or dry conditions, or which are subjected to high salinity, radiation or pressure, are inhabited by extremophilic microorganisms. The vast majority of these extremophiles, representing numerous and diverse lineages from across the three domains of life: Bacteria, Archaea and Eukarya. Special emphasis is placed on the understanding of the structure and function of microbial communities in extreme environments, their life strategies and adaptation mechanisms as well as their reaction to changing environmental conditions. This book series will be a useful reference for advancing our understanding of the origin of life and for exploring the biotechnology potential of these fascinating microorganisms.



www.degruyter.com

ISBN 978-3-11-030009-3

ISSN 2197-9227