

CONTENTS

Contributors	vii
Preface	xi
1. High Hydrostatic Pressure Effects in the Biosphere: from Molecules to Microbiology • <i>Filip Meersman and Karel Heremans</i>	1
2. Effects of Hydrostatic Pressure on Viruses • <i>Andréa C. Oliveira, Andre M. O. Gomes, Sheila M. B. Lima, Rafael B. Gonçalves, Waleska D. Schwarcz, Ana Cristina B. Silva, Juliana R. Cortines, and Jerson L. Silva</i>	19
3. Effects of High Pressure on Bacterial Spores • <i>Peter Setlow</i>	35
4. Inactivation of <i>Escherichia coli</i> by High Pressure • <i>Bernard M. Mackey and Pilar Mañas</i>	53
5. Cellular Impact of Sublethal Pressures on <i>Escherichia coli</i> • <i>Abram Aertsen and Chris W. Michiels</i>	87
6. <i>Listeria monocytogenes</i> High Hydrostatic Pressure Resistance and Survival Strategies • <i>Marjon Wells-Bennik, Kimon A. Karatzas, Roy Moezelaar, and Tjakko Abee</i>	101
7. Effects of Pressure on Lactic Acid Bacteria • <i>Rudi F. Vogel and Matthias A. Ehrmann</i>	117
8. <i>Saccharomyces cerevisiae</i> Response to High Hydrostatic Pressure • <i>Patricia M. B. Fernandes</i>	145
9. Effects of Growth-Permissive Pressures on the Physiology of <i>Saccharomyces cerevisiae</i> • <i>Fumiyoshi Abe</i>	167
10. Factors Affecting Inactivation of Food-Borne Bacteria by High Pressure • <i>Margaret F. Patterson and Mark Linton</i>	181
11. Introduction to Deep-Sea Microbiology • <i>Douglas H. Bartlett</i>	195
12. Isolation, Cultivation, and Diversity of Deep-Sea Piezophiles • <i>Chiaki Kato, Yuichi Nogi, and Shizuka Arakawa</i>	203
13. Culture-Independent Characterization of Microbial Diversity in Selected Deep-Sea Sediments • <i>Chiaki Kato, Shizuka Arakawa, Takako Sato, and Xiang Xiao</i>	219
14. Deep-Sea Geomicrobiology • <i>Jiasong Fang and Dennis A. Bazylinski</i>	237
15. Deep-Sea Fungi • <i>Chandralata Raghukumar and Samir Damare</i>	265
16. Physiology and Biochemistry of <i>Methanocaldococcus jannaschii</i> at Elevated Pressures • <i>Boonchai B. Boonyaratankornkit and Douglas S. Clark</i>	293
17. Molecular Biology of the Model Piezophile, <i>Shewanella violacea</i> DSS12 • <i>Chiaki Kato, Takako Sato, Kaoru Nakasone, and Hideyuki Tamegai</i>	305

18. Adaptations of the Psychrotolerant Piezophile <i>Photobacterium profundum</i>	
Strain SS9 • Douglas H. Bartlett, Gail Ferguson,	
and Giorgio Valle	319
Index	339