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Nota di contenuto	1. Insights into the Thermophile Diversity in Hot Springs of Pakistan -- 2. Hot Springs of India: Occurrence and Microbial Diversity -- 3. Thermophiles in Terrestrial Hot Springs of Yunnan and Tibet, China -- 4. Microbial Diversity of Terrestrial Geothermal Springs in Lesser Caucasus -- 5. Geobacillus and Anoxybacillus Distributed in the Terrestrial Geothermal Springs Worldwide: Diversity and Biotechnological applications -- 6. Thermophiles and Their Exploration for Thermostable Enzyme Production -- 7. Thermophilic Chemolithotrophic Bacteria in Mining Sites -- 8. Thermophilic and Halophilic Microorganisms Isolated from Extreme Environments of Turkey, with Potential Biotechnological Applications -- 9. Hypersaline Environments of Iran; Prokaryotic Biodiversity and Their Potentials in

Microbial Biotechnology -- 10. Halotolerant and Halophilic Microbes and Their Environmental Implications in Saline and Hypersaline Lakes in Qinghai Province, China -- 11. Soil Salinity and Microbes: Diversity, Ecology and Biotechnological Potential -- 12. Halophilic Actinobacteria Biological Activity and Potential Applications -- 13. Microbial diversity in Asian Deserts: Distribution, Biotechnological Importance and Environmental Impacts -- 14. Trichoderma from Extreme Environments: Physiology, Diversity, and Antagonistic Activity -- 15. Exopolysaccharide Producer Microorganisms from Extreme Areas: Chemistry and Application -- 16. Why Choose Mediocre, When Extremists Exist? -- 17. Use of Acidophilic or Acidotolerant Actinobacteria for Sustainable Agricultural Production in Acidic Soils.

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### Sommario/riassunto

This book explores various aspects of thermophilic and halophilic microbes from Eurasian ecosystems, which have proved to offer a unique reservoir of genetic diversity and biological source of extremophiles. It also covers the biotechnological uses of extremophiles, and their potential use in agricultural and industrial applications. The topics addressed include but are not limited to: diversity and microbial ecology, microbe-environment interactions, adaptation and evolution, element cycling and biotechnological applications of thermophiles and halophiles in Eurasian ecosystems. In order to review the progress made in biology and biotechnological applications of thermophiles and halophiles, the book combines review papers and results of original research from various specialists and authorities in the field. It includes several chapters describing the microbial diversity and ecology of geothermal springs distributed among the territory of various Eurasian countries, such as Armenia, Bulgaria, China, Georgia, India, Italy, Pakistan and Turkey. A dedicated chapter discusses selected aspects of thermophilic chemolithotrophic bacteria isolated from mining sites (sulfide ores); detailed descriptions of various thermophile microbes isolated from high-temperature environments and their biotechnological potential are also provided. Subsequent chapters describe the diversity and ecology of halophilic microbes harbored in saline and hypersaline lakes in Iran, Turkey and China; soil and plant microbiomes in saline arid lands of Uzbekistan; microbial diversity in Asian deserts; and the potential applications of thermophilic and halophilic microbes as exopolysaccharide (EPS) producers, focusing on the chemistry and applications of the EPS they produce. We hope that this book will prove valuable as an up-to-date overview of the current state of research on Eurasian extremophiles in general and thermophiles and halophiles in particular. Many questions remain unanswered, and we hope that it will stimulate further studies in this intriguing and promising field.

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