

Special Issue

Microbial Resistance Mechanisms in Biotechnology: From Extremes to Applications

Message from the Guest Editors

Microorganisms thriving in extreme environments possess unique resistance systems that enable them to survive and function under harsh conditions such as extreme temperatures, pH levels, salinity and radiation. This Special Issue aims to explore the molecular and genetic mechanisms underlying these resistance systems, highlighting their evolutionary adaptations and physiological responses. The focus will be on identifying and characterizing essential resistance genes and pathways, as well as understanding the ways in which these microorganisms maintain stability and activity under extreme conditions. Additionally, the Special Issue will investigate the potential biotechnological applications of these resistance systems, including their use in industrial processes, environmental remediation and the development of novel bioproducts. By examining both the fundamental biology and applied aspects, this Special Issue seeks to provide comprehensive insights into the resilience of extremophiles and their potential to drive innovations in biotechnology.

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Message from the Editor-in-Chief

The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

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