

Microbial Biosorption of Metals

Pavel Kotrba • Martina Mackova • Tomas Macek
Editors

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 Springer

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Preface

The word *biosorption* unites a biological entity with a physico-chemical process of sorption. Indeed, the biosorption of metal ions is a metabolism-independent metal accumulation event, which takes place at the cell wall by polysaccharides, associated molecules, and functional groups. It is an ubiquitous property of living or dead biomass and derived products, and is undoubtedly an important process in the environment. Since the early 80s of the previous century, the biosorption with biosorbents formulated from non-living biomass has also become recognized as a promising biotechnology for heavy metal removal from liquid waste streams. When we examine the ISI Web of Science, we can see that the number of journal papers published with *biosorption* and *metal* in their subject matter is at nearly 2700. Also the continuing increase in research published on biosorption can be seen, especially during the last decade. While there were 96 metal biosorption articles in 2000, the figure nearly doubled in 2005 to 178 articles. In 2009, the number of articles jumped to 393. These studies inspected biosorption from different angles—from (micro)biology and (bio)chemistry to process engineering points of view—and significantly contributed to elucidation of the biosorption phenomenon and its biotechnological potential. This book attempts to collect review articles which do justice to the multidisciplinary nature of biosorption studies. We are well aware of the fact that a single volume could not cover all the particular aspects one could think about in connection with biosorption. However, we do believe that it provides a solid summation of the present state of the biosorption art. At this point, it is our great pleasure to thank the team of authors whose fine contributions made this book possible.

Prague, Czech Republic

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