

|                         |   |
|-------------------------|---|
| 1. Record Nr.           | UNINA9910951902403321   |
| Autore                  | Hedrich Sabrina   |
| Titolo                  | Biological Metal Recovery from Wastewaters / / edited by Sabrina Hedrich, Oliver Wiche  |
| Pubbl/distr/stampa      | Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2024   |
| ISBN                    | 9783031737657<br>3031737652   |
| Edizione                | [1st ed. 2024.]   |
| Descrizione fisica      | 1 online resource (325 pages)   |
| Collana                 | Advances in Biochemical Engineering/Biotechnology, , 1616-8542 ; ; 190  |
| Altri autori (Persone)  | WicheOliver   |
| Disciplina              | 628.5<br>660.6  |
| Soggetti                | Bioremediation<br>Environmental chemistry<br>Green chemistry<br>Environmental engineering<br>Biotechnology<br>Sustainability<br>Water<br>Hydrology<br>Environmental Biotechnology<br>Environmental Chemistry<br>Green Chemistry<br>Environmental Engineering/Biotechnology  |
| Lingua di pubblicazione | Inglese   |
| Formato                 | Materiale a stampa  |
| Livello bibliografico   | Monografia  |
| Nota di contenuto       | Sulphidogenic Bioprocesses for Acid Mine Water Treatment and Selective Recovery of Arsenic and Metals -- Biological iron recovery from waste waters -- Aluminium recovery from waste streams -- Precious Metal Recovery from Wastewater Using Bio-Based Techniques -- Microalgae: A Biological Tool for Removal and Recovery of Potentially Toxic Elements in Wastewater Treatment Photobioreactors -- Phytoextraction options. |
| Sommario/riassunto      | This book reviews the latest research on innovative and sustainable   |

biotechnologies for metal recovery from various process streams, emphasising the fundamentals and applications of biosystems. Divided into 7 chapters, it clarifies many topics including biological iron and aluminum recovery from wastewaters, precious metal recovery (Pt, Pd, Au, Ag), algal-based metal recovery, selenium and tellurium recovery, phytoextraction options, and arsenic removal by sulfate-reducing bacteria. Expert contributors explore microbial metabolisms such as iron oxidation, sulfate/sulfur reduction, and selenite reduction through the lens of environmental sustainability. In this book, readers will discover various case studies and commercial applications of these biotechnologies. Particular attention is given to combinations of biological systems with electrochemistry to enhance metal recycling from complex and diluted streams. This book is a valuable resource for researchers in the field of environmental biotechnology, and scholars of environmental science, chemical engineering and microbiology. Waste management and resource recovery professionals will benefit greatly from the insights provided. This book is a must-read for anyone interested in sustainable solutions for critical metal supply within a circular economy framework.

---