
Contents

<i>Preface</i>	<i>v</i>
<i>Contributors</i>	<i>ix</i>
1. Measurement of Bioaccessibility of Organic Pollutants in Soil <i>Laura McAllister and Kirk T. Semple</i>	1
2. Heavy Metal Bioavailability and Bioaccessibility in Soil <i>John Richard Dean</i>	15
3. Addressing PCR Biases in Environmental Microbiology Studies <i>Rita Sipos, Anna Székely, Sára Révész, and Károly Márialigeti</i>	37
4. MPN- and Real-Time-Based PCR Methods for the Quantification of Alkane Monooxygenase Homologous Genes (<i>alkB</i>) in Environmental Samples <i>Alfredo Pérez-de-Mora, Stephan Schulz, and Michael Schlöter</i>	59
5. Application of Fingerprinting Molecular Methods in Bioremediation Studies <i>Dimitrios G. Karpouzas and Brajesh K. Singh</i>	69
6. Using Terminal Restriction Fragment Length Polymorphism (T-RFLP) Analysis to Assess Microbial Community Structure in Compost Systems <i>Sonia M. Tiquia</i>	89
7. Combination of Fluorescence In Situ Hybridization with Staining Techniques for Cell Viability and Accumulation of PHA and polyP in Microorganisms in Complex Microbial Systems <i>Jeppe Lund Nielsen, Caroline Kragelund, and Per Halkjær Nielsen</i>	103
8. Ecophysiological Analysis of Microorganisms in Complex Microbial Systems by Combination of Fluorescence In Situ Hybridization with Extracellular Staining Techniques <i>Jeppe Lund Nielsen, Caroline Kragelund, and Per Halkjær Nielsen</i>	117
9. Applications of DNA-Stable Isotope Probing in Bioremediation Studies <i>Yin Chen, Jyotsna Vohra, and J. Colin Murrell</i>	129
10. Two-Dimensional Gel Electrophoresis: Discovering Biomolecules for Environmental Bioremediation <i>Om V. Singh and Anuj K. Chandel</i>	141
11. The Application of Molecular Techniques to the Study of Wastewater Treatment Systems <i>Irena Wojnowska-Baryła, Agnieszka Cydzik-Kwiatkowska, and Magdalena Zielińska</i>	157

12.	Plasmid-Mediated Bioaugmentation of Wastewater Microbial Communities in a Laboratory-Scale Bioreactor	185
	<i>Stephan Bathe and Martina Hausner</i>	
13.	The Role of Decision Support for Bioremediation Strategies, Exemplified by Hydrocarbons for In Site and Ex Situ Procedures	201
	<i>Elizabeth E. Diplock, Dave P. Mardlin, Kenneth S. Killham, and Graeme I. Paton</i>	
14.	Monitored Natural Attenuation	217
	<i>Kirsten S. Jørgensen, Jani M. Salminen, and Katarina Björklöf</i>	
15.	Application of Bioassays for the Ecotoxicity Assessment of Contaminated Soils	235
	<i>María D. Fernández, Mar Babín, and José V. Tarazona</i>	
16.	Community-Level Physiological Profiling	263
	<i>Kela P. Weber and Raymond L. Legge</i>	
	<i>Subject Index</i>	283