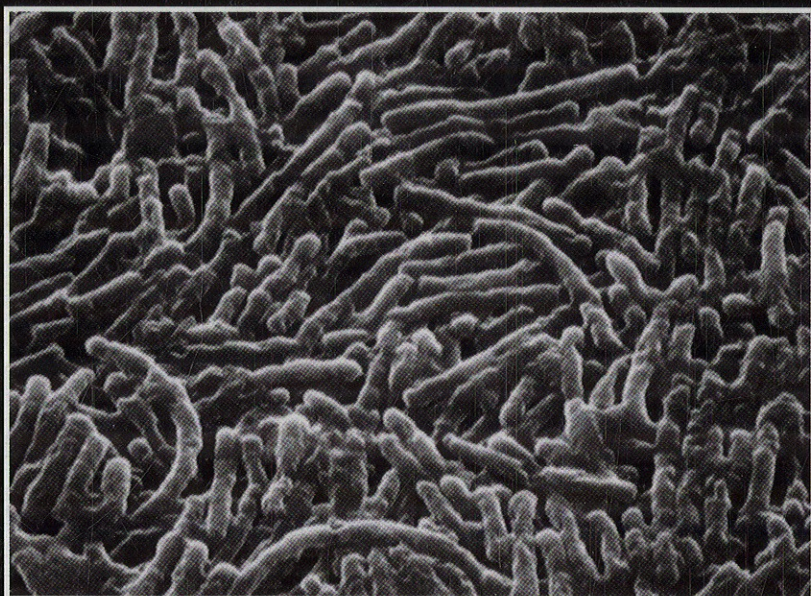


ENVIRONMENTAL MICROBIOLOGY

Second Edition



Edited by
RALPH MITCHELL AND JI-DONG GU

CONTENTS

Contributors	vii
Preface	ix
1 Bacteria in the Greenhouse: Marine Microbes and Climate Change	1
<i>Hugh W. Ducklow, Xosé Anxelu G. Morán, and Alison E. Murray</i>	
2 Control of Waterborne Pathogens in Developing Countries	33
<i>Tim Ford and Steve Hamner</i>	
3 New Molecular Methods for Detection of Waterborne Pathogens	57
<i>Alison M. Cupples, Joan B. Rose, and Irene Xagorarakí</i>	
4 Microbial Transformations of Radionuclides in the Subsurface	95
<i>Matthew J. Marshall, Alexander S. Beliaev, and James K. Fredrickson</i>	
5 Eutrophication of Estuarine and Coastal Ecosystems	115
<i>Nancy N. Rabalais</i>	
6 Microbial Deterioration of Cultural Heritage Materials	137
<i>Christopher J. McNamara, Nick Konkol, and Ralph Mitchell</i>	
7 Sorption and Transformation of Toxic Metals by Microorganisms	153
<i>Xu Han and Ji-Dong Gu</i>	
8 Bioremediation of Hazardous Organics	177
<i>Jennifer G. Becker and Eric A. Seagren</i>	
9 Biosensors as Environmental Monitors	213
<i>Steven Ripp, Melanie L. DiClaudio, and Gary S. Saylor</i>	
10 Effects of Genetically Modified Plants on Soil Microorganisms	235
<i>Nicole Weinert, Remo Meincke, Michael Schlöter, Gabriele Berg, and Kornelia Smalla</i>	
11 Anaerobic Digestion of Agricultural Residues	259
<i>Vincent O'Flaherty, Gavin Collins, and Thérèse Mahony</i>	

vi CONTENTS

12	Anaerobic Biodegradation of Solid Waste	281
	<i>Morton A. Barlaz, Bryan F. Staley, and Francis L. de los Reyes III</i>	
13	Low-Energy Wastewater Treatment: Strategies and Technologies	301
	<i>Thomas P. Curtis</i>	
14	Bioremediated Geomechanical Processes	319
	<i>Eric A. Seagren and Ahmet H. Aydilek</i>	
	Index	349