
Contents

<i>Preface</i>		v
<i>List of Contributors</i>		xi
Part I	Principles of Microbial Biotechnology	1
Chapter 1	Microbial Screening <i>Allan Lim and Tan Hai-Meng</i>	3
Chapter 2	Bioprocess Technology <i>Lee Yuan Kun</i>	21
Chapter 3	Application of -Omics Technologies in Microbial Fermentation <i>Victor Wong Vai-Tak, Faraaz Noor Khan Yusufi and Lee Dong-Yup</i>	71
Chapter 4	Enzymology <i>Theresa Tan May Chin and Deng Lih Wen</i>	95
Chapter 5	Microbial Genome Mining for Identifying Antimicrobial Targets <i>Kishore R. Sakharkar, Jayaraman Premkumar, Meena K. Sakharkar and Vincent T. K. Chow</i>	117
Chapter 6	Manipulation of Genes <i>Azlinda Anwar, Too Heng-Phon and Chua Kim Lee</i>	135

Chapter 7	Applications of Bioinformatics and Biocomputing to Microbiological Research <i>Paxton Loke and Sim Tiow Suan</i>	211
Chapter 8	Quantitative Real Time PCR (QPCR) <i>Too Heng-Phon and Azlinda Anwar</i>	241
Part II	Food Production Involving Microorganisms and Their Products	267
Chapter 9	Fermented Foods <i>Desmond K. O'Toole and Lee Yuan Kun</i>	269
Chapter 10	Food Involving Yeast and Ethanol Fermentation <i>Desmond K. O'Toole and Lee Yuan Kun</i>	335
Chapter 11	Fungal Solid State Cultivation <i>Desmond K. O'Toole</i>	379
Chapter 12	Food Ingredients <i>Desmond K. O'Toole and Lee Yuan Kun</i>	395
Chapter 13	Enzyme Modified Food Products <i>Desmond K. O'Toole and Lee Yuan Kun</i>	423
Annex	Regulation of Foods Involving Genetically Engineered Microorganisms <i>Desmond K. O'Toole and Lee Yuan Kun</i>	436
Part III	Microbes in Agrobiotechnology	441
Chapter 14	Microbes and Livestock <i>Jimmy Kwang and He Fang</i>	443
Chapter 15	Transgenic Plants <i>Hong Yan and Bu Yun Ping</i>	521
Part IV	Microbes in Medical Biotechnology	585
Chapter 16	Diagnostic Clinical Microbiology <i>Vincent T. K. Chow, Tim J. J. Inglis and Song Keang Peng</i>	587

Chapter 17	Microbes: Friends or Foes?	641
	<i>Vincent T. K. Chow, Tim J. J. Inglis and Song Keang Peng</i>	
Part V	Microbes in Environmental Biotechnology	671
Chapter 18	Municipal Wastewater Treatment	673
	<i>Chu Lee Man and Wong Po-Keung</i>	
Chapter 19	Industrial Wastewater Treatment	719
	<i>Wong Po-Keung and Chu Lee Man</i>	
Chapter 20	Municipal and Industrial Solid Waste Treatment	753
	<i>Wong Po-Keung and Chu Lee Man</i>	
Chapter 21	Bacterial Biofilm: Molecular Characterization and Impacts on Water Management	777
	<i>Teng Wee Lin, Gao Pingping and Chang Siao Yun</i>	
Annex	Regulatory Issues on Application of Natural and Genetically Engineered Microbes in Environmental Biotechnology	796
	<i>Wong Po-Keung and Chu Lee Man</i>	
Part VI	Microbes in Alternative Energy and in Mining	799
Chapter 22	Microorganisms and Production of Alternative Energy	801
	<i>Lee Yuan Kun</i>	
Chapter 23	Microbial Biomining	817
	<i>Yew Wen Shan</i>	
Part VII	Patenting Microbial Biotechnology	835
Chapter 24	Patenting Inventions in Microbiology	837
	<i>John Candlish</i>	
Index		855