Preface

Life science research and industry is developing rapidly all over the world. Microbial biotechnology is increasingly being regarded as a core subject in most university and polytechnic life science courses. There are already a number of excellent general textbooks on microbiology and biotechnology in the market that deal with the basic principles of the field. In order to complement these general textbooks, this book aims to focus on the applications of microbial biotechnological principles. A teaching-based format is adopted, whereby working problems, as well as answers to frequently asked questions are included to supplement the main text. This textbook also includes real life examples on how the application of microbial biotechnological principles has achieved breakthroughs in both research and industrial production.

The rapidly expanding molecular biology, genetic, protein and metabolic techniques and approaches have significant impact on the Microbial biotechnology; this leads to the addition of three new chapters in the third edition of this textbook. They are the Chapter 3: Application of -Omics Technologies in Microbial Fermentation, Chapter 5: Microbial Genome Mining for Identifying Antimicrobial Targets, and the Chapter 21: Bacterial Biofilm: Molecular Characterization and Impacts on Water Management". The Chapter 1: Microbial Screening and Chapter 15: Transgenic Plants are re-written as fresh chapters. For completion, Part VI is expanded to include Biomining (Chapter 23: Microbial Biomining). Most of the others chapters are updated in this new edition.

Although this textbook is written for university undergraduates and polytechnic students, it contains sufficient details to be used as a reference book

for postgraduate students and lecturers. It may also service as a source book for corporate planners, managers and applied research personnel.

Lee Yuan Kun
Editor