

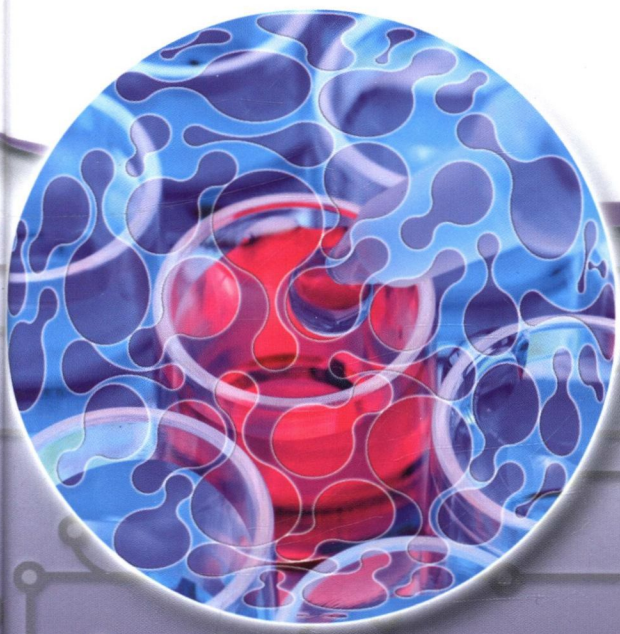
Edited by Ho Nam Chang

Emerging Areas in Bioengineering

Volume 7a

Series Editors:

S. Y. Lee, J. Nielsen,
G. Stephanopoulos



With more than 40 contributions from expert authors, this is an extensive overview of all important research topics in the field of bioengineering, including metabolic engineering, biotransformations and biomedical applications.

Alongside several chapters dealing with biotransformations and biocatalysis, a whole section is devoted to biofuels and the utilization of biomass. Current perspectives on synthetic biology and metabolic engineering approaches are presented, involving such example organisms as *Escherichia coli* and *Corynebacterium glutamicum*, while a further section covers topics in biomedical engineering including drug delivery systems and biopharmaceuticals. The book concludes with chapters on computer-aided bioprocess engineering and systems biology.

This is a part of the Advanced Biotechnology book series, covering all pertinent aspects of the field with each volume prepared by eminent scientists who are experts on the topic in question.

Invaluable reading for biotechnologists and bioengineers, as well as those working in the chemical and pharmaceutical industries.

Advanced Biotechnology

Biotechnology is a broad, interdisciplinary field of science, combining biological sciences and relevant engineering disciplines, that is becoming increasingly important as it benefits the environment and society as a whole. Recent years have seen substantial advances in all areas of biotechnology, resulting in the emergence of brand new fields. To reflect this progress, Sang-Yup Lee (KAIST, South Korea), Jens Nielsen (Chalmers University, Sweden), and Gregory Stephanopoulos (MIT, USA) have joined forces as the editors of a new Wiley-VCH book series. Advanced Biotechnology will cover all pertinent aspects of the field and each volume will be prepared by eminent scientists who are experts on the topic in question.



Ho Nam Chang is Professor Emeritus at the Department of Chemical and Biomolecular Engineering at the Korea Advanced Institute of Science and Technology (KAIST). He studied at Seoul National University (South Korea) and received his Master and Ph.D. degrees from Stanford University (USA) in 1971 and 1975. After this time, he returned to Korea and became Professor at KAIST, a position he held until his retirement in 2010. In 1990, he was elected Director of the Bioprocess Engineering Research Center at KAIST. During his scientific career, Ho Nam Chang became a Humboldt Fellow at the University of Erlangen (Germany, 1980 to 1981), President of the Korean Society for Biotechnology and Bioengineering (1994 to 1995), Member of the Presidential Council on Science and Technology of Korea (1995 to 1997) and Honorary Professor at Nanjing University of Technology (China).

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