

Special Issue

Recent Advances in Biomolecule and Bioprocess Engineering for Sustainable Environment

Message from the Guest Editors

Climate change caused by anthropogenic greenhouse gas emissions is a global challenge that needs to be urgently addressed. While biotechnology as an alternative to the petrochemical industry, which is known to be a major source of greenhouse gas emissions, has recently received significant research attention. We are hopeful that rapid advances in the core technologies and bioprocesses of biorefinery and their application to industry will ensure a sustainable environment and future. The biotechnology associated with biorefineries has evolved considerably to meet the challenges of efficiently utilizing a diverse biomass. The main challenges lie in securing the economic feasibility of the bioprocess, and more specifically, in the (1) exploration, characterization, and development of strategies to utilize sustainable biomass; (2) strain development to enhance the production of bioproducts; and (3) the provision of molecular-level analyses to improve efficiency. Advanced biotechnology and tools such as metabolic engineering, protein engineering, enzyme engineering, bioprocess engineering, molecular analysis, and statistical optimization are expected to address these challenges.

Guest Editors

Dr. Hah Young Yoo

Dr. Ja Hyun Lee

Prof. Dr. Chulhwan Park

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
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Message from the Editor-in-Chief

The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

Editor-in-Chief

Prof. Dr. Maurizio Battino

Department of Odontostomatologic and Specialized Clinical Sciences,
Sez-Biochimica, Faculty of Medicine, Università Politecnica delle
Marche, Via Ranieri 65, 60100 Ancona, Italy

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