Special Issue

Algal Biorefinery and Microbial Fuel Cells

Message from the Guest Editor

Fossil resource depletion and problems related to global warming are driving the demands for renewable and environmentally friendly fuels and chemicals in our society. Recently, photosynthetic microalgae- and electroactive bacteria-based biorefinery technologies have attracted great attention in both academic and industrial fields. Microalgal biomass can be applied to a variety of industrial applications such as bioenergy, animal/aquaculture feeds, food supplements, and nutraceuticals. In microbial fuel cells (MFCs), electricity and value-added products (such as ethanol and 3-hydroxyproionic acid) can be simultaneously produced from organic substrates. In addition, renewable electricity can be used to provide a reducing equivalent that is essential for the metabolism of diverse microorganisms to produce alcohols and organic acids. This Special Issue covers recent achievements in microalgae and biofuel cell technologies, including biocatalysts, reactors, process optimization, power generation, bio-products diversification, and upscaling.

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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