sustainability

an Open Access Journal by MDPI

IMPACT FACTOR 3.9

CITESCORE 5.8

Microalgae-Based Wastewater Treatment Processes and Biorefineries

Guest Editors:

Dr. Simone Rossi

Dr. Francesca Casagli

Dr. Micol Bellucci

Deadline for manuscript submissions:
closed (15 November 2023)

Message from the Guest Editors

Conventional wastewater treatment plants (WTTP) typically rely on biological processes to remove nutrients and other contaminants from wastewaters due to their high efficiency and low cost compared to other treatments. These systems can achieve high removal efficiencies for biodegradable organic matter, inorganic nitrogen, and phosphorus compounds. However, the high energy requirement for the oxygenation of mixed liquors in activated sludge processes, and the emissions of large quantities of greenhouse (CO_2, N_2O) and toxic (NH_3) gases, has led to an increasing interest in the use of microalgae-based wastewater treatment processes and biorefineries. The main advantage of integrating microalgae in WWTPs is the possibility of exploiting synergic consortia among microalgae and aerobic bacteria, thus leading to simultaneous nutrient removal, CO_2 biofixation, and biomass production. The algal biomass can be valorised in different ways, including the production of biofuels (biogas, bio-biodiesel, bio-hydrogen, among others) and bio-based materials: i) bioplastics; ii) soil biofertilizers and biostimulants; iii) feed for animal consumption; iv) biochar and other bio-absorbent materials.

sustainability

IMPACT FACTOR 3.9

CITESCORE 5.8

an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Marc A. Rosen
Faculty of Engineering and Applied Science, University of Ontario Institute of Technology, Oshawa, ON L1G 0C5, Canada

Message from the Editor-in-Chief

I encourage you to contribute a research or comprehensive review article for consideration for publication in *Sustainability*, an international Open Access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. *Sustainability* publishes original research articles, review articles and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.
High Visibility: indexed within Scopus, SCIE and SSCI (Web of Science), GEOBASE, GeoRef, Inspec, AGRIS, RePEc, CAPlus / SciFinder, and other databases.
Journal Rank: JCR - Q2 (*Environmental Studies*) / CiteScore - Q1 (*Geography, Planning and Development*)

Contact Us

Sustainability Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/sustainability
sustainability@mdpi.com
𝕏@Sus_MDPI