Special Issue

Microalgae Biofuel Production: Challenges and Future Opportunities

Message from the Guest Editor

Rising global energy demand coupled with the consequences of carbon emissions, especially from the transport sector, requires alternatives, such as biofuels. Microalgal biofuel could be a promising alternative, as microalgal biomass can be produced using seawater or wastewater. Since the biomass productivity of specific microalgae can exceed those of any other terrestrial plants, microalgal biofuel production can also be used as enhanced Carbon Capture and Utilization (CCU). Investing in microalgae could be crucial for transitioning to a low-carbon future while addressing key environmental and economic challenges.

This Special Issue welcomes all the recent advances in microalgal biofuel, including but not limited to:

- Microalgal biomass production for biofuel applications
- Hydrothermal Liquefaction (HTL) of algal biomass
- Sustainable Aviation Fuel (SAF) from microalgal biomass
- Biodiesel from algal feedstock
- Pyrolysis of algal biomass
- Anaerobic digestion of algal biomass
- The application of Artificial Intelligence (AI) in algal biofuel
- Biorefinery pathways for algal biofuel
- Life Cycle Analysis (LCA) and Techno-economic Analysis (TEA) of microalgal biofuel

Guest Editor

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Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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