

Special Issue

Advanced Biofuels: Microalgae, Drop-In and Bioelectro Approaches

Message from the Guest Editors

Advanced biofuels, such as microalgae, drop-in, and electro biofuels, have been extensively investigated as alternatives to conventional plant-based biofuels (e.g., biodiesel, bioethanol). These biofuels are considered to be promising solutions for how to meet growing biofuel demand and have recently have highlighted in both industrial and academic fields as a way to substantially reduce CO₂ emissions in the transportation sector. Microalgae show higher areal biomass productivities than traditional energy crops and can utilize directly high concentrations of CO₂ from industrial flue gases. Oxygen-free and/or catalytically-upgraded biofuels are required to improve both fuel quality and blending rates. The application of bioelectrochemical conversions for the obtainment of value-added chemicals and biofuels via electrofermentation could contribute to the practical replacement of the fossil-fuel-based refinery process. This Special Issue covers recent advances in microalgae, drop-in, and electro biofuel technologies, including (bio)catalyst screening/development, pretreatment, (bio)reactor/process optimization, biofuel conversion, biorefinement, and scale-up.

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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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