Special Issue

Green Photocatalysis for a Sustainable Future

Message from the Guest Editors

The design and preparation of desirable photocatalysts with high activity and high stability are of paramount importance—a key foundation that yet remains challenging for expanding CO_2 conversion into high-value-added fuels and chemicals. In addition, since the CO_2RR reaction involves the interconnection of multiple factors, including the photoexcitation of catalysts, charge transfer, the adsorption of reactant molecules, intermediate conversion, and so on, comprehensive insights into reaction mechanisms is still at an initial stage. We encourage interdisciplinary research that integrates insights from chemistry, materials science, and engineering to tackle major challenges in this field. Topics of interest include, but are not limited to, the following: Augmented designs of highly efficient photocatalysts; In situ reaction process tracking during CO_2 photoreduction; Identification of structure–property–performance relationships; Product selectivity optimization of CO_2 photoreduction; Case studies on potential industrial applications, e.g., stability assessment under practical operating conditions.

Guest Editors

Dr. Lei Cheng

Dr. Yang Li

Dr. Jian Yang

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Processes
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
processes@mdpi.com

mdpi.com/journal/processes

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Editor-in-Chief

Prof. Dr. Giancarlo Cravotto
Department of Drug Science and Technology, University of Turin, Via P. Giuria 9, 10125 Turin, Italy

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