Special Issue

Nanocomposites for Photocatalytic CO_2 and Bicarbonate Reduction

Message from the Guest Editor

The light-induced conversion of carbon dioxide or its pH-neutral hydrated form, bicarbonate, in a selective manner, to C1 fuels and commodity chemicals (CH3OH, HCOOH, HCHO, etc.) contributes toward the group of negative emission technologies (NETs). Such global challenges underscore a second advantage, mainly economic, as this greenhouse gas is photochemically value-added as opposed to carbon sequestration. The nanocomposite design of photocatalysts offers the potential to greatly enhance catalytic turnovers from solar energy or other light sources by drawing on nature's structures of flowers, foliage, leaves, and shells. This Special Issue is therefore named, "Nanocomposites for Photocatalytic CO2 and Bicarbonate Reduction", with a call for submissions of research articles, communications, and reviews. Topics for consideration in this Special Issue include, but are not limited, to nanocomposites such as metal oxides, metal organic frameworks, semiconductors, organic dyes for energy transfer, electron transfer, and noble metals for plasmonics.

Guest Editor

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Deadline for manuscript submissions

closed (30 September 2020)

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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

Editor-in-Chief

Prof. Dr. Eugenia Valsami-Jones
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