Special Issue

Symmetry/Asymmetry in Heterogeneous Catalysis for the Activation of Small Molecules

Message from the Guest Editor

Heterogeneous catalysis is significant for the selective conversion of small molecules to valuable compounds in chemical industries. Different types of energy (e.g., thermal, solar, electrical or mechanical energy) can be transformed into chemical energy via nanocatalysts. The design and construction of nanocatalysts with symmetrically or asymmetrically electronic/geometric structures play vital roles in obtaining satisfactory catalytic performance. Moreover, the effective heterogeneous catalytic protocols can lead to the synthesis of symmetrical or asymmetrical organic compounds with controlled stereoselectivity. This Special Issue of *Symmetry* is dedicated to the theme "Symmetry/Asymmetry in Heterogeneous Catalysis for the Activation of Small Molecules." The issue is open to submissions (research or review articles) involving any aspects of heterogeneous catalysis. The research of interest will cover asymmetry/symmetry in the design of catalyst materials, (but not limited to) and their applications in CO2 reduction, H2O splitting, N2 fixation, CH4 activation and organic synthesis.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

Editor-in-Chief

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