Special Issue

Recent Advances of Hydrogen Storage in Graphene

Message from the Guest Editor

Vast combustion of fossil fuels remains the dominant source of energy consumption. Consequently, carbon dioxide is the main combustion product in power plants and automotive applications. A drastic solution is the replacement of fossil fuels with environmentally clean fuels such as hydrogen (H2). Hydrogen constitutes an ideal 'green' fuel to replace non-renewable hydrocarbons. However, the utilization of molecular hydrogen as energy carrier requires two basic steps to be accomplished, namely a) hydrogen production and b) hydrogen storage.

To meet the second step, materials capable of safely and efficiently absorbing large amounts of carbon dioxide have become a major challenge over the last decades. Graphene combines excellent mechanical and electrical properties, elevated thermal conductivity and high charge carrier mobility; graphene layers hold a foremost place and thus comprises ideal systems for H2-sorption applications.

In this Special Issue, the submission of manuscripts related to graphene-based nanohybrids and their potential applications for H2 storage applications are welcomed.

Guest Editor

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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