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Aerogels: Synthesis and Applications

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Message from the Guest Editors

Replacing the solvent or water in gels with a gas can yield aerogels with low density, large specific surface area, and three-dimensional porous structure, which are attractive and show great application potentials in thermal insulation, harmful gas adsorption, noise reduction, catalyst loading and so on. Due to the abundant pore structure, their mechanical properties are relatively poor and hinder their large-scale application. Therefore, determining how to improve the mechanical properties of aerogels and further explore their application remain as challenges. However, the scope of a single preparation method is limited, and the adaptabilities of various aerogels are different. Therefore, it is necessary to further propose new preparation methods for mechanical enhancement and new applications to promote the development of aerogels.

This Special Issue focuses on recent advances in aerogels, such as inorganic oxide aerogels, carbon aerogels, graphene aerogels, polyimide aerogels, nanocellulose aerogels, carbide aerogels, metal aerogels, etc. We also welcome contributions regarding the application and structural analysis of aerogels, as well as their modeling and simulation.

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Editor-in-Chief

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Message from the Editor-in-Chief

Gels (ISSN 2310-2861) is recently established international, open access journal on physical and chemical gel-based materials. The journal aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. General topics include but not limited to synthesis, characterization and applications of new organogels, hydrogels and ionic gels made either from low molecular weight compounds or polymers, composite and hybrid materials where a metal is by some means incorporated into the gel network, and computational studies of these materials in order to provide a better understanding of gelation mechanism. We cordially invite you to consider publishing with us and contribute with your own grain of sand to the advance in this fascinating field.

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