Special Issue

Silica Aerogel: Synthesis, Properties and Characterization

Message from the Guest Editor

Silica aerogel is a highly porous and lightweight material known for its exceptional thermal insulation and unique properties. The synthesis of silica aerogel typically involves sol-gel techniques, where silica particles are formed in a liquid solution and subsequently transformed into a gel state. This gel undergoes supercritical drying to remove the liquid component without collapsing the structure, resulting in an aerogel.

The properties of silica aerogel include low density, high specific surface area, and low thermal conductivity, making it an ideal candidate for various applications, ranging from insulation in buildings and aerospace to drug delivery systems and environmental remediation. The characterization of silica aerogel involves various techniques such as scanning electron microscopy (SEM) and nitrogen adsorption-desorption isotherms, which help understand its microstructure and porosity.

I am thrilled to invite you, as renowned experts in the field, to contribute to this Special Issue and the development of the scientific study of silica aerogel.

Guest Editor

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Message from the Editorial Board

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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