

Special Issue

Nanomaterials in Aerogel Composites

Message from the Guest Editors

Aerogels, as highly porous nanomaterials, possess a unique combination of characteristics. They exhibit a delicate hierarchical structure, ultralow thermal conductivity, ultralow dielectric constant (even negative permittivity and permeability), ultralow refractive index (or ultralow reflectance), ultralow sound speed, low diffusion coefficient, and more. These remarkable features stem from their slender and fragile microstructure with an ultralow solid proportion. This Special Issue focuses on nanoporous aerogel composites that address aerogels' limitations and explore specialized applications. Notably, unresolved issues include interactions with other materials, synergistic effects among components, and long-term evaluations. We invite contributions related to the fundamental mechanisms, innovative preparation methods, efficient post-treatment techniques, notable properties, advanced functional applications, and the extended assessment of aerogel-related composites. We aim for this issue to serve as an open, interdisciplinary platform for researchers in aerogel science and engineering.

Guest Editors

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Deadline for manuscript submissions

closed (20 June 2024)



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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

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