Special Issue

Nanomaterials in Asphalt: From Advanced Modification to Sustainable Pavement Solutions

Message from the Guest Editors

This Special Issue focuses on cutting-edge research and applications of nanomaterials in asphalt modification, aiming to enhance pavement performance, durability, and sustainability. Topics include but are not limited to the following:

- Nanoengineered asphalt binders: Design and characterization of nano-modified asphalt (e.g., graphene, carbon nanotubes, nano-silica);
- Mechanisms of nano-modification: Interfacial interactions, aging resistance, and self-healing properties;
- Multifunctional nanocomposites: Integration of nanomaterials for improved rheological, thermal, and mechanical performance;
- Sustainable nano-technologies: Eco-friendly nanomaterials and recycling strategies for asphalt pavements.

Guest Editors

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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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