Special Issue

Nanomaterials in Smart Energy-Efficient Coatings

Message from the Guest Editor

Smart energy-efficient coatings are generally regarded as a promising way to modulate the energy going into and out of a closed space by controlling the transmittance/reflectance/ emissivity of the light. Recently, the emerging use of nanostructures with newly developed nanotechnology provides opportunities to enhance the performance of smart energy-efficient coatings. In addition, new nanostructure designs have been developed to modulate the infrared region in order to expand applications to spacecraft. Furthermore, new composited nanomaterials of organic and inorganic have been developed to exhibit flexible performance, which will promote the application of smart energy-efficient coatings. Potential topics include, but are not limited to:

- Smart window coatings based on chromogenic materials and devices (electrochromic, thermochromic, photochromic, etc.)
- Smart roof coatings (radiative cooling) based on nanostructures and multilayers
- Smart wall coatings (organic/inorganic/composite materials)
- Flexible coatings and devices for energy-efficient applications

Guest Editor

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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.

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