Special Issue

From Nanoclusters to Nanoparticles: Symmetry, Theory, Experiments, and Applications

Message from the Guest Editor

Nanoscience and nanotechnology have great potential to benefit society through the development of highly innovative materials in a wide variety of fields. Nanoclusters are aggregates formed by a small number of atoms and molecules, ranging from a few units up to a few hundred, and whose size does not exceed 2-3 nm. They can be bound by weak forces, such as van der Waals forces, or by very strong interactions, such as covalent bonds. Nanoparticles are clusters whose dimensions range from 2-3 nm up to 100 nm; they can be classified into different classes based on their properties, shapes, or sizes. Nanoclusters and nanoparticles have different physical and chemical properties from those of their larger material counterparts and are closely related to the number of components. For this reason, they are widely employed in the development of materials used in catalysis, medical applications, energy production and storage, and environmental protection.

Guest Editor

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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

Editor-in-Chief

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