

Special Issue

Nanofluids in Advanced Symmetric Systems

Message from the Guest Editor

Nanofluids are advanced thermal engineering fluids with wide applications in various thermal engineering systems and process plants. Due to the presence of nanoparticles within the bulk of a nanofluid, some phenomena such as thermophoresis effect, Brownian motion, or changes in the thermophysical properties of the base fluid can affect the performance of the system and improve the operation of the process. While it has been demonstrated that nanofluids promote the transport phenomena in single-phase flows, studies on two-phase systems, e.g., boiling flows shows that nanofluids suppress transport phenomena such as heat and mass transfer in the system. This Special Issue focuses on the behavior of nanofluids in symmetric and complex systems. Numerical and experimental studies are invited to be submitted to this Special Issue covering the following topics in symmetry:

- Nanofluids and boiling heat transfer in symmetric and complex systems
- Nanofluids and symmetry in renewable energy
- Nanofluid in passive and active engineering systems
- Thermal sciences
- Fouling of nanoparticles in symmetric and complex systems

Guest Editor

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About the Journal

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.

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