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Modeling and Simulation of Heat and Mass Transfer in Novel Low-Dimensional Nanomaterials

Guest Editor:

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Deadline for manuscript
submissions:

10 July 2024

Message from the Guest Editor

In last two decades, there has been tremendous progress in the field of low-dimensional nanomaterials. Versatile, new nanomaterials with astonishing properties have been imagined and/or synthesized, which bring about novel functionalities and applications that could not be previously realized. When the geometry of a material approaches the nanoscale, its heat and mass transfer behaviors deviate significantly from those of bulk materials and provide a playground for researchers in the fields of materials science, mechanics, physics, and chemistry. Hence, this Special Issue aims to share new insights regarding the heat and mass transfer of novel low-dimensional nanomaterials based on modeling and simulation methods. The topics of this issue include but are not limited to: (1) thermal conductivity of novel low-dimensional nanomaterials; (2) interfacial thermal transport of heterojunctions formed with these nanomaterials; (3) thermal properties of nanocomposite materials; (4) surface wettability of novel low-dimensional nanomaterials; (5) nanofluidic across the nanochannels of laminar nanomaterials; (6) nanofiltration and separation with low-dimensional nanomaterial-based membranes.



mdpi.com/si/161920

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Message from the Editor-in-Chief

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