Special Issue

Microscale and Nanoscale Heat Transfer

Message from the Guest Editor

The integration of components in mechanical and electronic equipment and systems has become increasingly complex in recent decades. Heat and mass transfer processes, usually accompanied by multiphase flow, are crucial for the normal operation of such equipment and systems and thus attract a great amount of attention from a thermal management perspective. Significant effort has been devoted to deepening our understanding of complex heat transfer processes, especially microscale and nanoscale heat transfer, and advancing the development of related applications in microchannels or nanoparticles applications. For example, phase change (e.g., boiling and condensation), nanofluids, and micro-/nano-structured surfaces are applied to enhance heat transfer and achieve a potentially higher critical heat flux. The aim of this Special Issue is to present recent advances in heat and mass transfer in microscale and nanoscale heat transfer, including but not limited to associated theoretical analyses, experimental measurements, numerical simulations, and practical applications.

Guest Editor

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