

## Special Issue

# Physics and Applications of Microfluidics, 2nd Edition

### Message from the Guest Editor

Research on microfluidics concerns the study of geometrically constrained fluid flows inside domains of a micrometric size. Ever since its introduction approximately 40 years ago, the miniaturization of typical fluidic elements, such as channels, reservoirs, or mixing/separation chambers, has garnered significant interest, enabling improvements in the performance of classical devices, such as compact heat exchangers, or the development of innovative concepts, such as the biochip. However, despite its many technological advantages, the scale reduction in transport phenomena has also introduced new challenges to the physical understanding of the underlying fluid flow mechanisms. Unexpected traits range from the increased prominence of surface-based phenomena, such as capillarity effects in the case of liquids, to the complete breakdown of the classical macroscopic hydrodynamic models in the case of gases. This Special Issue seeks contributions that bring new insights into the physics of microfluidic flows. In this context, theoretical, experimental, and computational approaches are all welcome.

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### Guest Editor

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### Deadline for manuscript submissions

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## Fluids

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