

Advances and Challenges in Computational Research of Micro and Nano Flows

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The talk gives an overview of the current state of the art in computational research of micro and nano flows. It presents the development of multi-scale methods based on computational fluid dynamics and molecular dynamics and their application to a broad range of problems, including drag reduction, carbon capture nanotechnologies and biomedical engineering. It also uses specific examples to demonstrate how computational research can guide the development of novel technologies such as nanotechnology-based gas filters.