



International Conference on Micro Nano Fluidics (ICOM 2025)



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Tentative topic of the invited talk

CFD backed Decision Support Tools for Patient-specific Cerebrovascular Diseases

Abstract of the invited talk

Our human circulatory system is a complex network of tubes facilitating the supply of oxygen and nutrients to all the tissues in the body, as well as bringing back CO₂. As the blood passes through a wide variety of complaint tubes such as, the aorta, arteries, arterioles, capillaries, veins, veinules etc a number of life-threatening circulatory disorders such as, myocardial infraction, stroke etc, may happen. This talk will focus on the CFD analysis tools for solving cerebrovascular disorders such as, stenosis, aneurysms, AVM's, MMA, arterial dissection etc. The approach typically starts from a simple CT scan, identify the underlying disease specific condition through image analysis, and analyze patient specific scenarios with the aid computational simulations. This talk will present CFD backed decision support tools of interest to the clinicians, such as rupture potential prediction of aneurysms, curvature effects on disease progression of MMA etc.