

Seminar

Turbulent drag reduction and inhibition of atherosclerosis by polymers

Atul Varshney

IST, Austria

Flows in nature and those employed in industry usually occur at speeds at which the flow loses its stability and exhibits complex flow patterns involving multiscale eddies--hallmark of turbulent flow. Compared to a steady flow, turbulent flow offers higher frictional drag, which contributes significantly to the world's energy consumption. In addition, it is held responsible for the formation of atherosclerosis lesions in the human cardiovascular system. I will discuss strategies employed to reduce the turbulent drag both in steady and unsteady (pulsatile) driving. Further, I will discuss the drag reduction (up to ~80%) and inhibition of atherosclerotic plaque by a minute addition of long-chain polymer molecules in the flow.

Thursday, Dec 19th 2019

4:00 PM (Tea/Coffee at 3:30 PM)

Seminar Hall, TIFR-H