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## **Seminar**

### **Effect of wall geometry and phase change on the stability of shear flow**

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It is known that a divergence in channel flow dramatically destabilizes it while a convergence stabilizes it. What is the net effect of periodic convergent-divergent sections in a plane channel? Can this effect be explored for engineering applications such as in microfluidics? The initiation of the transition to turbulence is investigated in a wide range of wall-bounded flows including the classical Jeffery-Hamel flow. Linear modal and non-modal stability results will be discussed, to predict the first departure from a steady laminar state. Modal and non-modal mechanisms cause disturbance growth in very different ways, which will be described.

When a glass of wine is left unperturbed 'tears of wine' are formed on the surface of the wine glass. The wavelength of the tears is known to be a function of the angle on inclination, the concentration of alcohol and the ambient temperature. A short study is carried out to understand this physically intriguing yet poorly understood phenomenon.

***Wednesday, Nov 18<sup>th</sup> 2015***

***4:00 PM (Tea/Coffee at 3:45PM)***

***Seminar Hall, TCIS***