

Institute of Creativity Institute of Computational and Theoretical Studies Department of Mathematics

## **Distinguished Lecture Series**

## **Stability of Laminar Shear Flow**



## **Professor Weinan E**

Peking University and Princeton University Institute of Physics Fellow SLAM Fellow Member of Chinese Academy of Sciences

Date:21 March 2013 (Thursday)Time:4:30 pm - 5:30 pm (Preceded by Reception at 4:00 pm)Venue:RRS905, Sir Run Run Shaw Building,<br/>Ho Sin Hang Campus,<br/>Hong Kong Baptist University

## Abstract

In 1883, Reynolds published his classical work on the experimental study of the stability of shear shows. Since then the issue of the critical Reynolds number at which laminar flows become unstable has been studied by numerous people, including Sommerfeld, Heisenberg, C. C. Lin, Orazag, and more recently, Trefethen, Hof, Barkley, Eckhardt, etc. Despite this great deal of effort, the theoretical question as to how the critical Reynolds number should be determined still remains open. In this talk, we present an approach using ideas drawn from statistical physics and large deviation theory.

This is joint work with Xiaoliang Wan and Haijun Yu.

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