



INDIAN INSTITUTE OF SCIENCE  
BANGALORE

Cordially invites you to the  
**INSTITUTE COLLOQUIUM**  
(Mechanical Sciences)

by

**V. Kumaran**

Professor, Dept. of Chemical Engineering, IISc.,

## Transition to Turbulence

Date : Tuesday, 29th October 2013

Venue : Faculty Hall, Main Building

Time : 4-00 p.m

Professor P. Balaram, Director  
will preside

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### ABSTRACT

The distinction between laminar and turbulent flows, and the characteristics of turbulent flows, will first be reviewed. This will be followed by a discussion about why fluid turbulence is difficult to understand, but also essential for life as we know it. The transition to turbulence due to hydrodynamic instabilities is well understood in some flows, such as rotating flows and fluid heated from below, and the routes to turbulence in these kinds of flows will be discussed. The transition is much less understood in simple flows such as a pipe flow, and the reasons for these will be highlighted. Some of our work on understanding transition in pipe and channel flows will be discussed. The talk will be at a basic level accessible to all.

Tea : 5-00 p.m.

ALL ARE WELCOME