

# Seminar

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## Institute for Plasma Research

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**Title:** What causes a transition from Static to Dynamic Friction?  
**Speaker:** Dr. Harish Charan  
Durham University, United Kingdom  
**Date:** 13<sup>th</sup> January 2025 (Monday)  
**Time:** 03:30 PM  
**Venue:** Seminar Hall, IPR

### Abstract

The transition from static to dynamical friction is an age-old problem that intrigued already the ancient Greeks. Explicitly, Themistius stated in 350 A.D. that "it is easier to further the motion of a moving body than to move a body at rest". The phenomenon is central to many different fields of physics and material science including tribology, the performance of microelectromechanical systems, mechanics of fracture, and earthquakes. Despite the considerable amount of work in the modern era starting with Leonardo, Amonton, and Coulomb, and culminating with enlightening experiments and simulations in recent years, the actual instability mechanism that results in this transition is still debated. In this talk, we would like to answer this question by incorporating analytic and computational methods employing an array of frictional disks.

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