



# CERN Colloquium

SPEAKER: Prof. Erik Verlinde (University of Amsterdam)  
TITLE: **On the Origin of Gravity, Dark Energy and Matter.**  
DATE: Thu 28/04/2011 16:30  
PLACE: Council Chamber

## ABSTRACT

Insights from black hole physics and developments in string theory strongly indicate that the gravity is derived from an underlying microscopic description in which it has no a priori meaning. Starting from first principles we argue that inertia and gravity are caused by the fact that phase space volume (or entropy) associated with the underlying microscopic system is influenced by the positions of material objects. Application of these ideas to cosmology leads to surprising new insights into the nature of dark energy and dark matter.

Organised by: Ignatios Antoniadis/PH-TH & Maria  
Spiropulu/PH-EP.....\*\*Tea and Coffee will be  
serve at 16h00\*\*