



*Institute of Mathematical Research  
Department of Mathematics*

## **GEOMETRY SEMINAR**

# **Ricci curvature and measures**

**Professor Jean-Pierre Bourguignon**  
CNRS-IHÉS, Bures-sur-Yvette, France

### **Abstract**

In the last twenty years one could witness a remarkable convergence between Riemannian geometry, optimal transport theory and the study of some stochastic processes in Probability Theory. The unifying concept is the Ricci curvature because of its relation with the geometric study of spaces of measures. This provides a number of new viewpoints, in particular in analyzing the geometry of singular spaces.

A remarkable role is played in this circle of ideas by functionals of entropy type. Their convexity is related to lower bounds of the Ricci curvature. In the same vein, estimates of entropy-like functionals can be obtained while following the Ricci flow.

The purpose of the lecture is to present this overall process as well as some recent results in the area.

<b>Date:</b>	<b>June 24, 2009 (Wednesday)</b>
<b>Time:</b>	<b>4:00 - 5:00pm</b>
<b>Place:</b>	<b>Room 210, Run Run Shaw Bldg., HKU</b>

*All are welcome*