Reto Müller
Differential Harnack Inequalities for Parabolic Equations

TIME:
23 Jan 2007, 17:00 - 19:00

LOCATION:
Freie Universität Berlin - Fachbereich Mathematik und Informatik
Arnimallee 2-6, 14195 Berlin-Dahlem (Raum 031)

A differential Harnack type inequality is a pointwise gradient estimate which can be integrated along a path to obtain a classical Harnack inequality as in the standard parabolic PDE theory. Such pointwise estimates were first introduced by Li and Yau in 1986 and have been found for different parabolic problems (in particular geometric flows) since then. In this talk we will concentrate on the Ricci Flow, where we will present some of the relations between Li-Yau type inequalities and monotone integral quantities, such as Perelman's entropy functionals or his L-functional. We will also present some analogous facts for the heat equation on a static manifold, based on an entropy functional found by Lei Ni.

Contact:
Humboldt-Universität zu Berlin . Institut für Mathematik
SFB 647 . Unter den Linden 6 . 10099 Berlin
Tel. +49 30 2093 1804 . Fax. +49 30 2093 2727
sfb647@math.hu-berlin.de