University of Puerto Rico Mayaguez Campus
Faculty of Arts and Sciences
Department of Mathematical Sciences
call box 9000, Mayagüez, P.R. 00681
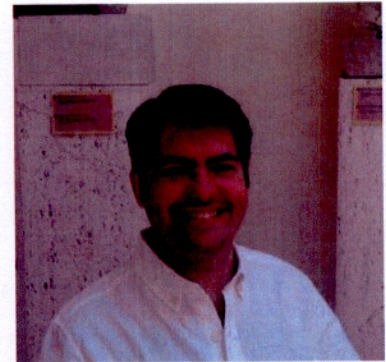
THE DEPARTMENT OF MATHEMATICAL SCIENCES PROUDLY PRESENTS

COLLOQUIUM

SPRING 2013

Ricci flow and the determinant of the Laplacian on non-compact surfaces.

Dr. Pierre Albin
March 4, 2013

ABSTRACT

The determinant of the Laplacian is an important invariant of closed surfaces and has connections to the dynamics of geodesics, Ricci flow, and physics. Its definition is somewhat intricate as the Laplacian has infinitely many eigenvalues. I'll explain how to extend the determinant of the Laplacian to non-compact surfaces where one has to deal with additional difficulties like continuous spectrum and divergence of the trace of the heat kernel. On surfaces (even non-compact) this determinant has a simple variation when the metric varies conformally. I'll explain how to use Ricci flow to see that the largest value of the determinant occurs at constant curvature metrics. This is joint work with Clara Aldana and Frederic Rochon.

Monzón Building, Room 201, 3:30 PM
Refreshments will be served
15 minutes before the colloquium, M203

RUMBO a los

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de Historia