

CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES
COLLOQUIUM

Friday, September 26
2:00 – 3:00 PM
Maria Sanford, Room 101

**THE RICCI FLOW COUPLED
WITH THE HARMONIC MAP FLOW**

MIHAI BĂILEȘTEANU

CENTRAL CONNECTICUT STATE UNIVERSITY

Abstract: We study a new flow, which couples the Ricci flow with the harmonic map flow. The flow first appeared in the work of B. List and arose as the gradient flow of an entropy functional, whose stationary points are solutions to the static Einstein vacuum equations. Later R. Muller proved short time existence and studied energy and entropy functionals for this flow. Moreover, the flow also arises in the study of Ricci flow on warped product spaces. The analysis of this flow is based on that of the well explored Ricci flow. We study Harnack inequalities and heat kernel estimates under this flow.

For further information:

gotchevi@ccsu.edu 860-832-2839
<http://www.math.ccsu.edu/gotchev/colloquium/>