

Institute for Applied Mathematics, Bonn University

Oberseminar Stochastik

Thursday, 22 November 2018, 16:30

Lipschitz-Saal (LWK 1.016)

Qi Feng

University of Southern California

Harnack inequalities on totally geodesic foliations with transverse Ricci flow

Under the transverse Ricci flow on a totally geodesic Riemannian foliation, I will present two types of differential Harnack inequalities (Li–Yau gradient estimates) for the positive solutions of the heat equation associated with the time dependent horizontal Laplacian operators. Both of them are related to the time dependent generalized curvature dimension inequality under this framework. A monotonicity formula for Perelman's \mathcal{W} -functional is also proved for basic functions. I will also talk about the connections to interesting problems in sub-Riemannian geometry and stochastic analysis on sub-Riemannian manifolds in the end.