Functional Inequalities for a Brownian motion of a time-dependent Riemannian metric

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Abstract. We will discuss functional inequalities (Poincaré inequality, logarithmic Sobolev inequality, Beckner's inequality, etc.) for the law of Brownian motion on a compact smooth manifold with a time-dependent Riemannian metric. This topic is closely related to the Ricci flow theory in differential geometry. Some recent contributions by Aaron Naber on the sharp constants for functional inequalities will also be discussed.