TOPPING Peter

Sharp local decay estimates for the Ricci flow on surfaces.

There are many tools available when studying 2D Ricci flow, equivalently the logarithmic fast diffusion equation, but one has always been missing: how do you get uniform smoothing estimates in terms of local L^1 data, i.e. in terms of local bounds on the area. The problem is that the direct analogue of the geometrically less-useful L^p smoothing estimates for p>1 are simply false. In this talk I will explain this problem in more detail, and show how to get around it with a new local decay estimate. I also plan to sketch the proof and/or give some applications. No knowledge of Ricci flow will be assumed. Joint work with Hao Yin