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(Albert Einstein Institute), Am Muehlenberg 1, 14476 Golm, Germany. *On Type I Singularities in Ricci Flow.*

In this talk, we will focus on the structure of singularities in Type I Ricci flows. We will show that blow-ups around singular points converge to *nontrivial* gradient shrinking solitons, thus extending work of Naber. Using this, we will prove that different notions of singular set for Type I Ricci flows all coincide. In particular, this implies that the scalar curvature blows up at any singular point and that a finite volume of the singular set vanishes at the singular time. After the definition of a density for Type I Ricci flows we will conclude with a regularity theorem reminiscent of White's partial regularity result for mean curvature flow. This is joint work with Reto Müller and Peter M. Topping. (Received August 08, 2010)