Song Sun: A Singularities of Kahler-Einstein metrics and stability

We will first review the fact that under appropriate assumptions Gromov-Hausdorff limits of polarized Kahler-Einstein manifolds are naturally endowed with the structure of a normal projective variety. Then we will move on to discuss some recent results, which give an algebro-geometric description of the metric tangent cone at a singular point. This is related to a possible notion of ``stability†for an algebraic singularity, and we will explain a conjectural picture.

This talk is based on joint work with Simon Donaldson.