1021-53-84 **Maria Calle*** (calle@cims.nyu.edu), 251 Mercer St., New York, NY 10012. *Ancient solutions for mean curvature flow.*

In the first part of the talk, I'll introduce mean curvature flow. A family of surfaces in R3 (or, in general, k-submanifolds in Rn) is said to move by mean curvature flow if its movement satisfies a particular parabolic PDE. This evolution follows the steepest descent direction for the area, that is, the surfaces decrease their area at the fastest possible rate. I present some basic facts about mean curvature flow solutions, such as a mean value inequality and the definition of density at a point.

After that, I'll present a result about ancient solutions. An ancient solution for mean curvature flow is a solution defined for all times t<0. I give a bound on the dimension of the ambient space of an ancient solution, depending on a bound on the density of the evolving submanifold. (Received August 26, 2006)