1118-51-245 **Or Hershkovits*** (or.hershkovits@cims.nyu.edu), 251 Mercer Street, New York, NY 10012.

Mean curvature flow of Reifenberg Sets.

In this talk, we will discuss the short time existence and uniqueness of smooth mean curvature flow in arbitrary dimension starting from a class of sets which is general enough to include some fractal sets (for which even the area is not defined).Those so-called (ε, R) Reifenberg sets have a weak metric notion of a tangent hyper-plane at every point and scale $r < R$ (with accuracy determined by ε), but those tangents are allowed to tilt as the scales vary.

We show that if X is an (ε, R) Reifenberg set with ε sufficiently small, there exists a unique smooth mean curvature flow emanating from X. When $n > 1$, this provides the first known example of instant smoothing, by mean curvature flow, of sets with Hausdorff dimension larger than n.

A corresponding result in high co-dimensions generalizes (qualitatively) all short time existence and uniqueness results for high co-dimensional mean curvature flow. (Received February 02, 2016)