1118-49-103 **Jessica Merhej*** (jem05@uw.edu), Department of Mathematics, University of Washington, Box: 354350, Seattle, WA 98195. *On the geometry of rectifiable sets with Carleson and Poincaré-type conditions.*

A central question in Geometric Measure Theory is the study of whether geometric properties of a set translate into analytical ones. For example, a plane can be written as the graph of a linear function. In 1960, E. R. Reifenberg proved that if a set is well approximated by planes at every point and at every scale, then the set is a bi-Hölder image of a plane. In this talk, we discuss conditions that ensure that a subset of $\mathbb{R}^{n+1}$ is in fact a subset of a bi-Lipschitz image of an n-plane. Our conditions are motivated by ideas arising in harmonic analysis and metric geometry. (Received January 26, 2016)