1107-55-202 **Bryce Chriestenson** and **Markus J. Pflaum*** (markus.pflaum@colorado.edu), Department of Mathematics UCB 395, University of Colorado, Boulder, CO 80305. *Whitney functions and the real homotopy type of a semi-analytic set.*

In the talk we consider semi-analytic subsets of a real analytic manifold and their homology and real homotopy type. It is well-known that de Rham's Theorem does not hold true in general for singular spaces such as semi-analytic sets. We show that to remedy this one can replace the de Rham complex by the Whitney–de Rham complex to compute the singular homology of such sets. Beyond that, the Whitney–de Rham complex even determines the real homotopy type of a semi-analytic set, which extends a result by Sullivan for the de Rham complex on smooth manifolds. As an application we derive that the Hochschild homology of the differential graded algebra given by the Whitney–de Rham complex is isomorphic to the cohomology of the free loop space of the underlying space. (Received January 15, 2015)