1086-14-1852 **Sam Payne***, Yale University, New Haven, CT. *Topology of nonarchimedean analytic spaces.*

The usual norm on the complex numbers and its associated analytic geometry (holomorphic functions and differential forms) have been fundamental tools for understanding the geometry and topology of complex algebraic varieties since the beginnings of the subject. Nonarchimedean norms, such as the p-adic norm on the rational numbers, also have an associated analytic geometry, which has been used extensively in number theory, but is just beginning to be applied in other areas of mathematics, such as algebraic geometry and dynamics. Even the most basic topological properties of nonarchimedean analytic spaces can be quite subtle. For instance, it was only in 2010 that Hrushoski and Loeser proved that the nonarchimedean analytification of an algebraic variety, in the sense of Berkovich, is locally contractible and has the homotopy type of a finite simplicial complex.

This talk will introduce the basics of nonarchimedean geometry and survey recent developments in the topology of nonarchimedean analytic spaces, highlighting relations to tropical geometry, invariants of singularities, birational geometry, and mixed Hodge theory. (Received September 24, 2012)