1123-03-324 **Donald M. Stull*** (dstull@iastate.edu). *Polynomial space randomness and analysis.*

Recent work has used measure theoretic analysis to study algorithmic randomness. In the computable setting, this line of research has shown a deep connection between the two fields. However relatively few results have explored this connection for resource bounded randomness.

In this talk we discuss how to use measure theoretic analysis to study polynomial space randomness. We first define weak pspace randomness, a new notion of polynomial space randomness. We then show that the Lebesgue differentiation theorem characterizes weakly pspace random points. (Received August 29, 2016)