Andrew Jaramillo* (drewj@math.ucsb.edu), Santa Barbara, CA. Quantum Subgroups of $SL_n$. Preliminary report.

The subject of Quantum Groups originated in the mid 1980’s in the Leningrad School when studying the quantum inverse scattering method. Since that time, there has been much progress on Quantum Groups; however, there is still no definition for them. One guiding principle for these objects is that they are noncommutative $k$-algebras with parameter $q$ where as $q \to 1$ we recover a classical object.

Though we will not attempt give such a definition for ”Quantum Groups” here, we will give a brief overview of some mathematical objects which are considered ”Quantum” as well as some of the tools used in their study. This talk will delve into Hopf Algebras, Hopf Duality, as well as investigating the structure of the quantized coordinate rings for subgroups of $SL_n$. Finally, we will propose some examples of noncommutative algebras which may be considered quantized coordinate rings for standard parabolic subgroups and their unipotent radicals in $SL_n$. (Received September 10, 2013)