1127-05-44 **Drew J. Lipman*** (djlipma@clemson.edu) and **Michael Burr**. *Quadratic Generated Normal Domains from Graphs.*

Determining whether an arbitrary subring R of $k[x_1^{\pm 1}, \ldots, x_n^{\pm 1}]$ is a normal domain is, in general, a nontrivial problem, even in the special case of a monomial generated domain. In this talk, we consider the case where R is a quadratic-monomial generated domain. For the ring R, we consider the combinatorial structure that assigns an edge in a mixed directed signed graph to each monomial of the ring. We then use this relationship to provide a combinatorial characterization of the normality of R, and, when R is not normal, we use the combinatorial characterization to compute the normalization of R. Time permitting, we will discuss determining when the ring satisfies Serre's R_1 condition. All important concepts will be defined. (Received January 10, 2017)