1125-14-2035   **Erik A Insko*** (`einsko@fgcu.edu`) and **Martha Precup**. *Singularities of Hessenberg Varieties.* Preliminary report.

Semisimple Hessenberg varieties are a family of subvarieties of the flag variety with important connections to representation theory, algebraic geometry, and combinatorics. In this talk, we will investigate the singularities of semisimple Hessenberg varieties by analyzing the combinatorial commutative algebra of patch ideals. We will describe a combinatorial criterion that identifies the singular loci of semisimple Hessenberg varieties for a subfamily of these vareties, and time permitting, share some interesting cases in which the algorithm breaks down for other cases. (Received September 19, 2016)