1108-20-23 **Christopher M Drupieski*** (cdrupies@depaul.edu), Dept of Mathematical Sciences, DePaul University, 2320 N Kenmore Ave, Chicago, IL 60614. *Finite-generation for cohomology rings of finite supergroup schemes.*

It has been known since the publication of Maschke's Theorem in 1899 that, over a field of characteristic zero, every finite-dimensional representation V of a finite group G decomposes into a direct sum of irreducible representations. On the other hand, over a field k of prime characteristic p dividing the order of G (the modular situation), there can be non-split extensions between kG-modules. These non-split extensions are parameterized, up to equivalence, by certain cohomology spaces.

In the past 30 years, much progress has been made studying cohomology spaces for finite groups (and related structures) by way of certain associated geometric objects, called (cohomological) support varieties. The first step toward constructing these support varieties is proving that the associated cohomology ring $H^\bullet(G,k)$ is a finitely-generated k-algebra. For finite groups, this was established by Venkov (1959) and Evens (1961). For arbitrary finite group schemes, it was finally established by Friedlander and Suslin (1997). In this talk, I will discuss a generalization of Friedlander and Suslin's results (and methods) to a class of algebraic structures called finite supergroup schemes. Applications to cohomological support varieties will also be discussed. (Received November 13, 2014)