1125-16-2158   **Taiki Shibata*** (`shibata@ualberta.ca`), Dept. of Math. and Stat. Sci., University of Alberta, Edmonton, Alberta T6G 2G1, Canada. *A Hopf-algebraic approach to the study of algebraic supergroups.*

An *algebraic supergroup* is a group-valued functor on the category of commutative superalgebras represented by a finitely-generated commutative Hopf superalgebra. It has been known that representations of algebraic supergroups can be applied in non-super (modular) representation theory.

Serganova (2011) introduced the notion of *quasireductive supergroups* as a super version of the notion of split reductive groups. This is an interesting and important class of algebraic supergroups including queer supergroups $Q(n)$ whose Lie superalgebra is a queer superalgebra $\mathfrak{q}(n)$. She constructed irreducible representations of quasireductive supergroups over an algebraically closed field of characteristic zero in terms of their Lie superalgebras. In this talk, I introduce a Hopf-algebraic approach to the study of quasireductive supergroups and, as an application, give a generalization of Serganova's result to the case where the base field is arbitrary. The main tool of this approach is the *super-hyperalgebra* $\mathrm{hy}(G)$ of an algebraic supergroup G which is a refinement of the notion of the Lie superalgebra $\mathrm{Lie}(G)$ of G. (Received September 19, 2016)