1077-19-884 **Aderemi Oluyomi Kuku*** (kukua@gram.edu), Department of Mathematics & Computer Science, Grambling state University, Grambling, LA 71245. *Profinite (Continuous) Equivariant Higher Algebraic K-theory for the Action of Algebraic Groups.*

The lecture starts with a preamble on representations of groups G being considered as actions of G on objects of various 'nice' categories; e.g. actions of finite or compact Lie groups G on the category of finite dimensional complex vector spaces; or actions of algebraic groups G on the category of algebraic vector bundles on a G-scheme X. We next note that the actions of G on such categories give rise to the category of G-representations on which one can do K-theory. One motivation for this approach to representation theory is the fact that when G is a finite or compact Lie group, the Grothendiek group of G-representations in the category of finite dimensional complex vector spaces coincide with the Abelian group of generalized characters of G. As such, K-theoy of such equivariant categories belong to the theory of group representations and is aptly described as Equivariant K-theory. So, for an algebraic group G over a field F, we present constructions and computations of equivariant higher K-groups as well as profinite (continuous) equivariant higher K-groups of some G-schemes, including twisted flag varieties, when F is a number field or p-adic field. (Received September 14, 2011)