# K-Theory, Quadratic Forms and Number Theory Seminar

**Title:** Involutions and symmetric elements in group algebras

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**Date:** Wed 27th January 2010 at 4:00PM

**Location:** Mathematical Sciences Seminar Room

**Abstract:** Let A be an algebra with an involution *. An element x in A is called symmetric (skew symmetric) with respect to *, if x* $= x(x^* = -x).DenoteA^+andA^-thesetofsymmetricandsk$

Let FG be a group algebra of a group G over a field F of characteristic p, and let * be an involution of FG. We would like to give a survey concerning the theory of polynomial identities and group identities in the set of symmetric (skew symmetric) elements of FG. Under the canonical involution of FG we give some identities in FG$^+(FG^-), whichcanbetransferredtothewholealgebra.Furthermore, forsomeLie-identitiesweconsidernotonlythecanonicalinvolutions.$