

Representation Theory, Geometry & Combinatorics Seminar

Organizer(s): M. Haiman, K. Reshetikhin, D. Hill & J. Sussan

Monday, 1:00–3:00pm, 939 Evans

9/8/2008 **Dan Edidin**, University of Missouri

Completions of equivariant K -theory and algebraic cycles

The classical Riemann-Roch theorem can be viewed as saying that every coherent sheaf on an algebraic variety is equivalent in the Grothendieck group to a rational combination of classes of structure sheaves of subvarieties. When a group G acts on a variety, it is no longer true that every element of the equivariant Grothendieck group can be expressed in terms of equivariant algebraic cycles. In this talk we explain how completions of the equivariant Grothendieck at maximal ideals in the representation ring $R(G)$ can be realized in terms of equivariant algebraic cycles. The main technique is an extension of the classical localization theorem for diagonalizable group actions to arbitrary algebraic groups. (This talk is based on joint work with Bill Graham).