



Seminar

## K-Theory, Quadratic Forms and Number Theory

**Title:** Combinatorial aspects of K-theory of projective toric schemes

**Speaker:** Thomas Hüttemann (Queen's University Belfast)

**Date:** Wed 2nd March 2011 at 3:00PM

**Location:** Mathematical Sciences Seminar Room

**Abstract:** A projective toric scheme  $X$  is completely specified by a (commutative) ring  $R$ , and a polytope  $P$  with integral vertex coordinates. I will explain how to give a rather combinatorial description of "bundles of modules over  $X$ " (that is, I will demonstrate how to describe the category of quasi-coherent sheaves as a kind of diagram category), and then use this approach to prove a splitting result in K-theory. I will treat the rather involved K-theory machinery as a black box, discussing instead how the combinatorial setup allows to use descent to cover the cases of a ring  $R$  that is non-commutative but noetherian, or else commutative.