K-Theory, Quadratic Forms and Number Theory Seminar

Title: Hermitian lattices and K-theory of the ring of integers of a number field

Speaker: Julien Houriet (EPFL, Lausanne)

Date: Wed 14th May 2008 at 4:00PM

Location: Mathematical Sciences Seminar Room

Abstract: Using Voronoi reduction theory for lattices, Christophe Soulé derived upper bounds for the torsion of the K-theory of the ring of integers Z. He generalized his method to the ring of integers of any number field and obtained bounds for their K-groups in terms of degree and absolute discriminant of the number field. The method consists in using relationships between K-groups of a ring R and homology of GL(R) on one side, and reduction theory for hermitian lattices on another side. We will show how one can use results on ideal lattices to improve results for hermitian lattices and consequently obtain better bounds for the torsion of K-groups.