



Seminar

## K-Theory, Quadratic Forms and Number Theory

**Title:** On hermitian Pfister forms

**Speaker:** Dr. Nicolas Grenier-Boley (Universite Paris 13)

**Date:** Wed 6th February 2008 at 4:00PM

**Location:** Mathematical Sciences Seminar Room

**Abstract:** It is known that a quadratic Pfister form over a field  $K$  is hyperbolic once it is isotropic. It is also known that the dimension of an anisotropic quadratic form over  $K$  belonging to a given power of the fundamental ideal of the Witt ring of  $K$  is lower bounded. In this talk, we will show how to prove weak analogues of these two statements for hermitian forms over a multiquaternion algebra with involution. If we have time, we will talk about an invariant of  $K$  for which we can prove an analogue of a result of Elman and Lam concerning the  $u$ -invariant of a field of level at most 2. This is joint work with E. Lequeu and M. Mahmoudi.