



## Algebra and Number Theory Seminar

**Title:** The  $u$ -invariant of  $p$ -adic function fields

**Speaker:** Professor David Leep (University of Kentucky)

**Date:** Mon 10th May 2010 at 4:15PM

**Location:** Mathematical Sciences Seminar Room

**Abstract:** The  $u$ -invariant of a field  $F$  is the smallest integer  $N$  such that every quadratic form defined over  $F$  in more than  $N$  variables has a nontrivial zero defined over  $F$ . The  $u$ -invariant has been calculated for many familiar fields such as algebraically closed fields, finite fields,  $p$ -adic fields, number fields, and power series fields over these fields. The  $u$ -invariant has also been calculated for function fields over algebraically closed fields and finite fields.

Computing the  $u$ -invariant of a function field defined over a  $p$ -adic field has only recently been solved. This talk will give the computation of the  $u$ -invariant over  $p$ -adic function fields. We will discuss the history and background to this result.

[Please note the later starting time of 4.15pm.]