K-Theory, Quadratic Forms and Number Theory Seminar

Dr. David Grimm (EPFL)

will speak on

Sums of squares in algebraic function fields

Thu 26th January 2012 at 4:00PM

Location: Mathematical Sciences Seminar Room (Ag 1.01)

The quantitative study of sums of squares in function fields is strongly associated with Pfister's result on the the bound on the Pythagoras number of function fields over real closed fields. In the one-dimensional case, Pfister's bound on the Pythagoras number is 2. We will discuss the Pythagoras number of one-dimensional function fields with hereditarily pythagorean field of constants. Using recent result from arithmetic geometry and classical results from algebraic geometry, we will find evidence that the Pythagoras numbers of such function fields are either 2 or 3, and that moreover 2 cannot be the Pythagoras number of a one-dimensional function field whose field of constants is real but not hereditarily pythagorean.

This talk is part of the **K-Theory, Quadratic Forms and Number Theory** series. For more, see
`https://maths.ucd.ie/seminars`