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## K-Theory, Quadratic Forms and Number Theory Seminar

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**M. Raczek (Université Catholique de Louvain)**

will speak on

**The 3 Pfister number of quadratic forms**

Wed 27th October 2010 at 3:00PM

Location: Mathematical Sciences Seminar Room

Let  $F$  be a field of characteristic different from 2 containing a square root of  $-1$ . The 3-Pfister number of a quadratic form  $q$  in the third power of the fundamental ideal of  $F$ , is the least number of terms needed to write  $q$  as a sum of 3-fold Pfister forms. We use a combinatorial analogue of the Witt ring of  $F$  to prove that, if  $F$  is a 2-henselian valued field with at most two square classes in the residue field, then the 3-Pfister number of a  $d$ -dimensional quadratic form is less than or equal to  $(d^2)/2$ .

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