K-Theory, Quadratic Forms and Number Theory Seminar

Title: Differential forms and bilinear forms under simple field extensions

Speaker: Professor Detlev Hoffmann (University of Nottingham)

Date: Fri 14th November 2008 at 3:00PM

Location: Mathematical Sciences Seminar Room

Abstract: In algebra one often has to deal with objects that are defined over a field, and it then becomes quite natural to study their behaviour under field extensions. In this talk, we will look at this problem for differential forms over fields of positive characteristic and we will determine the kernel of the restriction map for all simple field extensions, i.e., we will determine which differential forms over a field of positive characteristic will become zero when passing to a given simple extension of that base field. If the field is of characteristic 2, then a famous result by Kato relates differential forms to bilinear forms. This allows us to completely determine the kernel of the homomorphism from the Witt ring of bilinear forms over a field of characteristic 2 to the Witt ring of a simple extension field.

Please note the day and time.